

REPORT of SURVEY for REPAIRS, &c.

Date of writing Report 23 to 25th June 1927 When handed in at Local Office 27th June 1927 Port of Gibraltar

No. in Reg. Book. Survey held at Gibraltar Date, First Survey 6th April 1927 Last Survey 25th June 1927

22384 10394 on the Wood, Iron or Steel S.S. "Gandara" (No. of Visits Continual attendance as required)

TONNAGE: Built at Stockton By whom Craig, Taylor & Co. Ltd. When 1919 10th.

GROSS 5281 Owners British India Ste. Nav. Co. Ltd. Owners' Address

UNDER DECK 4823 Managers Port belonging to Glasgow

NET 3190

Surveyed Afloat or in Dry Dock? Afloat in Name of Dock No. 1 Dock, H.M. Dock, Destined Voyage Indian Ports.

WB=CellDBorDBa feet; uE&B feet; f feet Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

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

If the Vessel has Water Ballast Tanks, state whether the manhole covers have been removed, and the insides of the tanks examined. Also state the amount of deterioration (if any) found in the thicknesses of the floors, framing, girders, and of the inner bottom plating, especially in the boiler space.

Last Report, No. 3512 Port BOM.

(Periodical Surveys, when held, must be reported in detail and serially in the terms of the Rules. 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) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be summarised in the form shown below. Whenever the replacement of Anchors or Chains is reported, the particulars should be clearly stated in the space provided on the back of this form. State also the dates and initials of any letters respecting this case. M 21/4/27, Telegram 2/4/27, M 28/4/27, M 27/4/27 & M 10/5/27.

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

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

PAIRS, OR EXAMINATION AS PER RULE, FOR

This vessel was surveyed whilst at anchor 6/4/27 at the Northern Anchorage, Gibraltar Bay, where she had been placed after salvage by the Salvage Steamers "Treja" and "Valkyrien". S.S. "Gandara" having run aground during fog on the night of March 31st 1927 at Cires Point, Morocco, when on a voyage with a general cargo from M. K. to Indian Ports.

At this survey the Salvors were standing by with pumps and the divers were completing the stoppage of leakage in No. 1 hold. The discharge of cargo from No. 1 hold was in progress.

I found and recommended as follows:—

STATE OF DAMAGE REPAIRS:—	Shell Plates.	Frames.	R. Frames.	Floors.	Beams.	Str. Plates.	Dk. Plates.	Other Items:—
Renewed	19	20	5	20				Base of collision bulkhead, tank margin
Removed and Faired or Repaired	14	13		20				Stem
Faired or Repaired in place	3	6						Temp. repairs to bottom plating way of No. 2 hold.

CONDITION OF THE	State if Tanks have been examined inside	Yes	Dblg. Plates under Sounding Pipes	Yes	Copper, or Y.M. of Wood Vessels
Decks	State if Tanks now tested	Yes	Engine Room Skylights	✓	(State if on Feet).
Fastenings	Bulkheads	Good	Coal Bunkers, Open'gs, Lids, &c.	✓	When put on, Month Year
Plating	Ceiling	"	Scuppers	✓	Boats
Frames	Cement or Asphalt (State which.)	Cement	Cargo Hatchways	✓	Masts, Yards, &c.
Plating	Rudder	Good	Hatches	✓	Condition, how ascertained
Plating	Steering gear and its connections	"	Planking of Wood Vessels	✓	(State if wedges removed)
Plating	Windlass	"	Caulking	ditto	Sails
Plating	Have Pumps now been examined and found efficient?	Yes	Treenails	ditto	Equipment letter
Plating	Have Sluice Valves now been examined and found efficient?	"	Breasthooks & Stemson	ditto	Anchors, No. of
Plating	Have Watertight Doors now been examined and found efficient?	"	Transoms, Pointers, & Crutches	ditto	Cables (State if now ranged)
Plating	Have Ventilators and their Coamings been examined and found efficient?	✓	Timbers of Frame at openings	ditto	" length 280 ft. size 2 3/16 S.L.
Plating			Ditto ditto at other places	ditto	" Rule length 270 ft. size 2 3/16 S.L.
Plating			Stringers, Clamps & Shells	ditto	Hawser & Warps
Plating			Salting (State if examined.)	ditto	Standing and Running Rigging

General 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 now classed in the Register Book without fresh record of Survey," "to remain as classed and to have record of survey, 1,24," or "to remain as classed and to have record of survey, 1,24, and the notations of ss No. 1-24 and ptnd 24, &c."

Recommended that she be allowed to remain as now classed in the Register Book, subject to the deferred permanent repairs being carried out after the completion of the present round voyage.

(per Section 20)	£	:	:	Fees applied for,
Age or Repair Fee (if any)	£	157	10 : 0	23/6/1927
^{1/2} Rate fees & expenses (if chargeable)	£	18	18 : 0	Received by me,
Surveyor's Fee (if any)	£	:	:	24/6/1927

Committee's Minute FRI. 8 JUL 1927 TUES. 13 SEP 1927

Character Assigned

100% Subject Cargo batten not fitted

FRI. 9 DEC 1927

Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation

W40-0060 (118)

Damage as described by the diver and
illustrated on the attached sketch.

about 20 ft. of stem and plating at the fore foot torn away. Port side abreast fore peak tank 10 ft of plating folded over to starboard and 10 ft. turned upwards and in line with the collision bulkhead. Starboard side of fore peak, the lower strakes torn and plates turned out to starboard at the bottom.

starboard at the bow No. 1 collision bulkhead crippled and broken at the base leaking to No. 1 D.B tank and hold. Keel and bottom plating set up from collision bulkhead to a point under No. 1 hatch where port side A and B strakes are set up about 3 ft. and the tank top broken, also on the starboard side plates in B, C and D strakes are set up about 15". No. 1 hold had about 10 ft. of water in at 10 a.m. 6/4/27, all bilges and tanks aft of No. 1 hold soundings were in good order.

Recommendations

Place vessel in a safe berth.

Discharge all cargo in No. 1 hold
and sufficient cargo from the after
holds to trim the vessel.

Apply at A.M. Dockyard for a
drydock, where with extra shores
the vessel may be safely docked
with part cargo on board for
further survey and recommendations.

From the nature of the damage it is expected that permanent repairs will be necessary at Gibraltar, as the costs and time to effect temporary repairs to proceed to another port for permanent repairs, or to continue the round voyage, would nearly equal the costs and time for permanent repairs.

The vessel was carefully docked down on 19/4/24 and in consequence of about 4,000 tons of cargo being still on board, special attention was

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

ANCHORS.

ANCHORS.																
Number of Certificate.	Anchors #	WEIGHT, EX. STOCK.			WEIGHT OF STOCK.			TEST, PER CERTIFICATE.			WEIGHT REQUIRED BY RULE.			Description of Anchor.	Makers.	Where and when tested and Superintendent.
		Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.	Tons.	Cwts.	qrs.	lbs.	Cwts.	qrs.			
	1st Bower ...															
	2nd "															
	3rd "															
	Collecting Weight.															
	Stream															
	Kedge.....															

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

CHAIN CABLES.

[illegible]

given to the fitting of an ample number of additional shores under the bottom plating and bilges, also by providing extra breast shores.

The keel was properly supported on the blocks and whilst the keel repairs were in hand the fore part of the vessel was supported by carefully fitted side shores. Sights were taken to prevent any possible distortion and a sufficient number of floors were left in place whilst the remainder were dropped out for renewal or being faired for replacement.

The damage

Rpt. 9a.

Port of

Gibraltar

Continuation of Report No. 1980, dated 6/4/24 to 25/6/24. on the "Gandari"

The damage as examined in dry dock and after removal of cargo and debris was substantially as stated in the preliminary report and described by the diver, except that No. 1 tank top was not broken and the frame and plate damage in No. 1 hold did not extend much above the line of the bilge brackets and frame heels.

The damage to floors particularly on the starboard side was extensive with regard to the frames in No. 1 hold, as the work proceeded it was only found necessary to partly renew two frames on the port side with Admiralty 9" x 3 1/2" x 9/16" bulb angles. All the remaining frames cropped and faired successfully.

The new frames fitted in the fore peak were of heavier section than the originals and in every case throughout the repair when the exact weight or thickness of material was not available in Admiralty stock, the next heavier size was fitted.

Ample and very efficient compensation was adopted in every case where cropping was resorted to, and in a number of instances angle butt straps were fitted where none were used when the vessel was built.

In addition to fitting full sized butt straps to cropped frames when replaced or renewed, the butt ends were electrically welded together. Collision bulkhead stiffeners were renewed with Admiralty $9" \times 3\frac{1}{2}" \times \frac{9}{16}"$ built angles in place of original $10"$ ditto, were provided with $4" \times 3\frac{1}{2}" \times .4"$ reverse angles as directed.

Frequent visits were made to the forge and plate shop, sample pieces of materials were selected from that going to the ship, cold bending tests applied and found in good order. The class of workmanship throughout was first class and thoroughly supervised. Unapproved work in a few minor instances was promptly and efficiently remedied.

All materials used were guaranteed Admiralty specification and test.

Detail of Plate Damage and Repairs. Strokes lettered and numbered as shown on accompanying drawing supplied by the Chief Constructor's Department Drawing Office.

Plates numbered from forward.

Keel

Plate 1 broken and indented
 " 2 badly set up.
 " 3 indented
 " 4 indented fore end.

Repairs effected.

Renewed in .73" plate.
" " .85" "
off, faired and refitted.
Partly released and faired in place.

Port Side

B. or Garboard Strake

Plate 1 (at fore foot) broken
 " 2 first stealer plate broken.
 " 3 (under No. 1 E strake)
 indented
 " 4 from frame 160-150 indented

Renewed in .62" plate.
 " " .62" "
 Off, faired and refitted.

Detail of Plate Damage and Repairs (Contd.).Port Side.Repairs effected.B. Strake from Station 162/3.

Plate 1 indented

Off, faired and refitted.

" 2 good.

" 3 indented at upper edge.

Permanent repairs deferred until completion of the round voyage. Temporarily repaired by caulking, &c., for completion of voyage, damage in way of No. 2 hold.

" 4 indented at after end.

Ditto.

" 5 " " fore end.

Ditto.

D. Strake from Station 148/9.

Plate 1 indented.

Ditto

" 2 indented

Ditto

" 3 "

Ditto.

E. Strake from Station 169/70.

Plate 1 broken and set in.

Renewed in .62" plate.

" 2 indented

Off, faired and refitted.

" 3 stealer D & E indented

" " " "

" 4 to 8 indented (No. 2 hold)

Temporary repairs, permanent repairs deferred.

F. Strake

Plate 1 (stem) broken.

Renewed in .49" plate.

" 2 broken

" " .49" "

" 3 indented

" " .49" "

" 4 "

" " .49" "

" 5 "

Off, faired and refitted.

" 6 to 8 "

Temporary repairs, permanent repairs deferred.

" 9 indented, lower edge

Ditto.

" 10 indented, after end.

Ditto.

F.A. Strake.

Plate 1 broken at lower edge.

Renewed in .49" plate.

" 2 indented

Off, faired and refitted

" 3 "

Released and riveted lower edge & frames.

" 4 "

Temporary repairs, permanent repairs deferred

" 8 "

lower edge

G. Strake

Plate 1 indented

Off, faired and refitted

" 2 good.

Partly released and rivetted

H. Strake

Plate 1 in way of stem scarph.

Off, faired and refitted.

Starboard Side.B. or Garboard Strake.

Plate 1 torn out

Renewed in .62" plate

" 2 (stealer) badly set up

" " .62" "

" 3 badly set up

" " .62" "

Detail of Plate Damage and Repairs (Contd).Starboard Side (contd).Repairs effected.C. Strake.

Plate 1 from station 162/3 indented
 " 2 indented.

off, faired and refitted.
 " " " "

E. Strake

Plate 1 from station 168/9 indented and
 broken.
 " 2 indented

Renewed in .62" plate.

off, faired and refitted

F. Strake

Plate 1 (stem) broken
 " 2 broken
 " 3 badly indented.

Renewed in .49" plate.

" " .49" "

" " .49" "

F.A. Strake

Plate 1 torn off.

" " .49" "

G. Strake

Plate 1 stem landing damaged.

dropped between 183/4 to suit butts
 above and below, new plate at stem
 .49" fitted with internal butt strap.

H. Strake.

Plate 1 at stem scarp.

Released and refitted when replacing stem.

NOTE re damage in way of No. 2 hold port side.

Owing to the expense in discharging and reloading cargo, and after conference with the Owner's Superintendent, temporary repairs for the round voyage were effected by fitting tap rivets, electric welding and caulking all defective seams, butts and rivets. The repairs were further strengthened after a satisfactory test by filling No. 2 double bottom tank to within an inch or two of the top, by applying a fillet of cement along the tank margin angle and all distorted floors. No. 2 tank was examined, entry being made at the manholes in the stokehold, after crawling through 42 frame spaces and finding that the seat of the damage was at the fore end of the tank, I recommended that a manhole door be cut and fitted at the No. 1/2 tank end plate on the port side to enable the workmen to enter and effect temporary repairs with greater facility.

Stem. Set to starboard with the torn plating from immediately below the upper scarp down to keel at station 175. About 6 ft. had broken off at the keel end.

Stem bar released and sent to shop, faired in forge and found in sound condition. A scarp was cut at station 179 and a new piece extending to the fore side of collision bulkhead fitted.

(Continued)

Frames 176 to 184, nine each side,
torn out with plating.

Repairs effected.

Frames cropped and renewed alternately up to first and second stringer brackets in fore peak, 14 ft. and 22 ft. lengths approximately of 8" x 3 1/2" x .45" bulb angle.

NOTE, original frames were 8" x 3".

Compensation for repairs consisted of heavier section bar, carried up to stringers, butt straps .62" x 32" and butt ends welded.

Station 175 collision bulk head.
Bottom plates broken and vertical stiffeners broken on the port side.

Plate renewed in .43 plate, 6" x 6" x .75" margin angle renewed in way and 6" x 3 1/2" x .62" angles to keel plate, adjoining plate heated and faired in place. Three vertical stiffeners partly renewed with 9 x 3 1/2" x .56" bulb bar provided with butt straps and compensated with 4" x 3 1/2" x .4" reverse angles, butt straps of full width of web with chamfered edges to fit bulb and radius fitted 38" x .62" butt ends of flanges and bulbs electrically welded after rivetting up.

Port Side.

Frame 174 distorted at heel.

10 ft. cropped, released, heated, faired and refitted. 32" x .62" butt straps and butt ends welded in each of the following frame repairs.

" 173 distorted at heel.

13 ft. ditto.

" 172 " " "

18 ft. ditto.

" 171 " " "

13 ft. renewed in 9" x 3 1/2" x .56" bulb butted as above and compensated with 5" x 3 1/2" x .375" reverse angle, butt strap 38" x .62".

" 170 deep or web frame slightly buckled.

Partly released, heated, faired and refitted, shell angle in way renewed 6" x 6" x .75" reverse angle faired in place.

" 169 distorted at heel for about 8 ft.

18 ft. etc. as for 174

" 168 " " " " " "

13 ft. " " " " "

" 167 " " " " " "

17 ft. " " " " "

" 166 " " " " " "

12 ft. " " " " "

" 165 damage as for 170.

As for 170 with 15 ft. 6" x 6" x .75" shell angle renewed, butt straps, & reverse angle renewed 6" x 6" x .75"

Port Side. (Contd.)

Frame 164 heel damage.

" 163 " "

" 162 " "

" 161 to 151 good

" 150 to 143. slightly crippled at heel and bilge brackets at shell angles.

Repairs effected.

Renewed as in 171, butt strap 38" x 62".

Released etc. as for 166.

17 ft. ditto

Permanent repairs deferred.

Starboard Side.

Frames 174 to 169 slight buckling

" 168 to 166 ditto.

" 165 web frame.

" 164 - 162.

" 149 - 147 local indentation at waterline

Heated and faired in place.

No. 170 web frame partly released, faired and rivetted up.

Cropped etc. as on port side frames.

Partly released, faired and refitted, lower plate renewed .49".

Heated and faired in place.

Rivets released, plate and frames heated and faired in place.

Floors, tank margin plates and bilge brackets.

Five deep floors in forepeak tank destroyed.

Renewed in original dimensions, plates .49" flanged at top, provided with .43" division or wash plate 175 to 148, 3 brackets and 3 1/2" x 3 1/2" x .4" vertical angles as before at centre line, bracket angles 5" x 3 1/2" x 3 7/8".

Tank top plating set up locally at 163-5 starboard side

Heated and faired in place.

D. B. floors, centre keelson plate intercostals and all angles broken and set up from 144 to 154, also tank margin plates and angles crippled in way.

All released for fairing and renewal. Renewed 12, remainder faired. Floor plates .37". Keelson .43". Keel angles 6" x 6" x .75" Margin plates .49", angles 3 1/2" x 3 1/2" x .5". Intercostal angles 4" x 4" x .5".

No. 1 hold bilge bracket plates, port side.

174 - 162 buckled.

150 - 143 Slightly buckled, shell angles sprung and rivets sheared.

Released, plates and angles faired & refitted. Temporary repairs for round voyage, plate in way extends into No. 2 hold, rivets renewed at shell angles. Permanent repairs deferred.

No.1 hold bilge bracket plates, starboard side.
174 to 169 slight distortion at shell angles.

168 to 165 buckled.

Repairs effected.

Released and faired in place when plates were off.

Released, heated, faired and refitted.

No.2 hold port side, floors distorted in way of indented plates temporarily repaired as stated.

Starboard bilge keel, 15 ft distorted amidships

Floors, (solid and half) from 142-132 and 130-122, permanent repairs deferred. Shell angles were in order, bulb bar released, faired and refitted, butt ends welded.

Summary of Plate Repairs.

New keel, bottom and shell plates.

Nineteen

Off, faired and refitted.

Fourteen.

Deferred Repairs

After part No.1 hold and under No.2 hold

Fourteen plates and twenty-seven floors in way.

No.2 ballast tank tested for temporary repairs and found in order.

No.1 ballast tank tested to rule requirements and cement washed afterwards.

Fore peak tank tested to rule requirements and cement washed afterwards, and found in good order 9/6/27.

Vessel undocked 10/6/27.

No.1 hold interior was cleaned and painted by crew.

The bilges were coated with bituro, bilge ceiling and frame filling pieces renewed and refitted as required.

Tank top plating oiled.

All air, sounding and suction pipes for the tanks, with fittings renewed and repaired as found necessary. Wood casing renewed.

Fore peak tank coated with red lead paint and cement replaced in fore foot and at floors after rule tests had been applied.

The outer shell and bottom plating was coated with anticorrosive and antifouling composition, an extra hand of protective paint applied to new and repaired surfaces.

Whilst repairs to hull damage were in hand, sundry minor repairs were effected such as caulking a number of rivets in way of the after peak tank showing traces of leakage. Placed in good order.

Rudder, no defects.

Anchors and chains were ranged in drydock, two bower anchors sent to shop, pins and shackles overhauled and placed in good order.

All chain studs and links examined and reconditioned. Fifty-eight studs found loose and renewed, one bent link heated and faired. All shackles and pins overhauled and placed in good condition. Smallest mean diameter measured $2\frac{3}{16}$ ". Total length on board 280 fathom $2\frac{3}{16}$ " stud link. Restowed in good order.