

Sinpo Solutions Service Report



MV “MAUNALEI”

MLE 711 CPP

SHANGHAI SINPO SOLUTIONS CO. LTD.

Tel: + [REDACTED]

Fax: [REDACTED]

**Block No.1, No.25 Hang Du Road, Sinpo
Industrial Zone, Hang Tou Town, Pu Dong New
District, Shanghai 201316**

E-Mail: [REDACTED]



| | | |
|------------------------|-----------------------------------|------------------|
| Vessel: | M/V MAUNALEI | IMO no |
| Engine type: | 7L70MC-C | Run. hours: |
| Engine builder: | IZAR MANISES | Engine no.: 590 |
| Job order no.: | | Sea trial: |
| Spare parts from MAN: | | Spare order no.: |
| Place: | NANTONG COSCO SHIPYARD | ECS version: |
| Visit by: | | |
| Period: | 2020-09-12 | |
| Owner/manager: | MATSON NAVIGATION COMPANY | |
| Requested by, P/O no.: | | |
| Reason: | | |

| Item | Work description / Work number | Equipment concerned |
|------|---|---------------------|
| 1 | Remover old FWD and AFT coupling bolts | |
| 2 | Bore alignment of new stern tube bush | |
| 3 | Piping modification | |
| 4 | Installation new stern tube | |
| 5 | in-situ boring of fly wheel coupling hole | |
| 6 | shaft alignment adjustment | |
| 7 | Re-chock fasting | |
| 8 | New intermeddle shaft and OD shaft up | |
| 9 | Propeller blade installation | |
| 10 | Loading test | |

11

Sea trial

Background:

During MV"MAUNALEI" repairing in NANTONG COSCO shipyard.

Ship's owner asked Sinpo Solutions Shanghai office to send service team to CPP renovation work.

Sinpo Solutions service team went to shipyard on 2020-08-31, began the work on 2020-09-01, and finished on 2020.10.25, the team member was: Mr. Si Wei; Chen Hong; Wang Li Fu; Luo Chang Lin; Zhang Cai Wu

Ref. Document:

shaft arrangement & alignment calculation documents by MAN energy solutions.

Description of work:

1. The repairing items were as followings:

A. On board for dismantle FWD and AFT coupling bolts.



Removed AFT coupling bolts



Removed AFT coupling bolts



Removed FWD coupling bolts



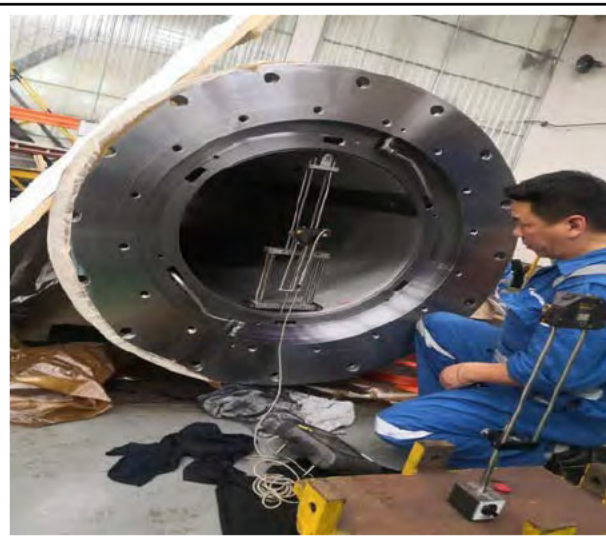
Removed FWD coupling bolts

B. At shipyard workshop for inspection new stern tube bush

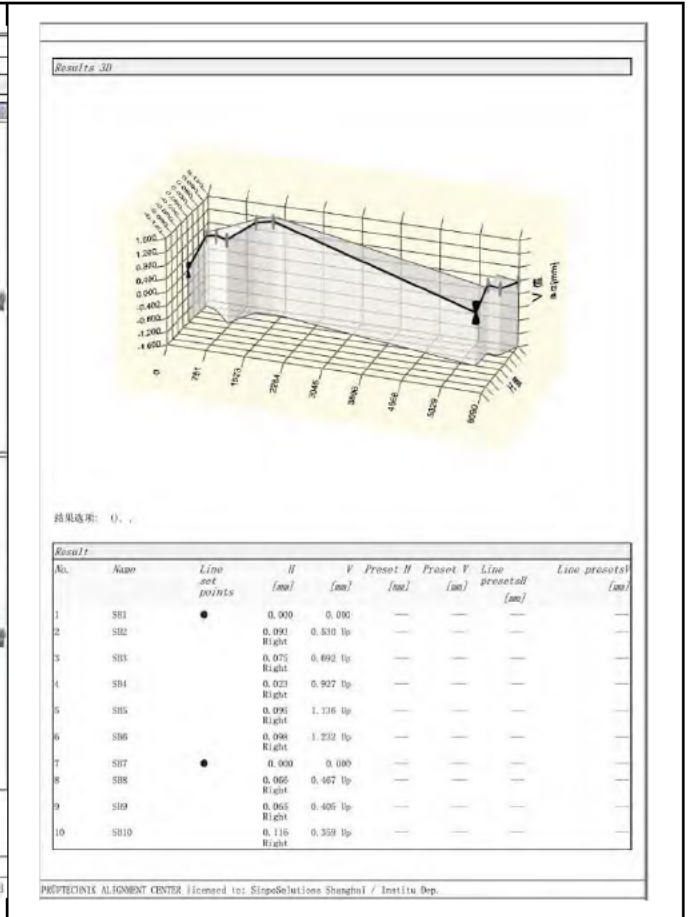
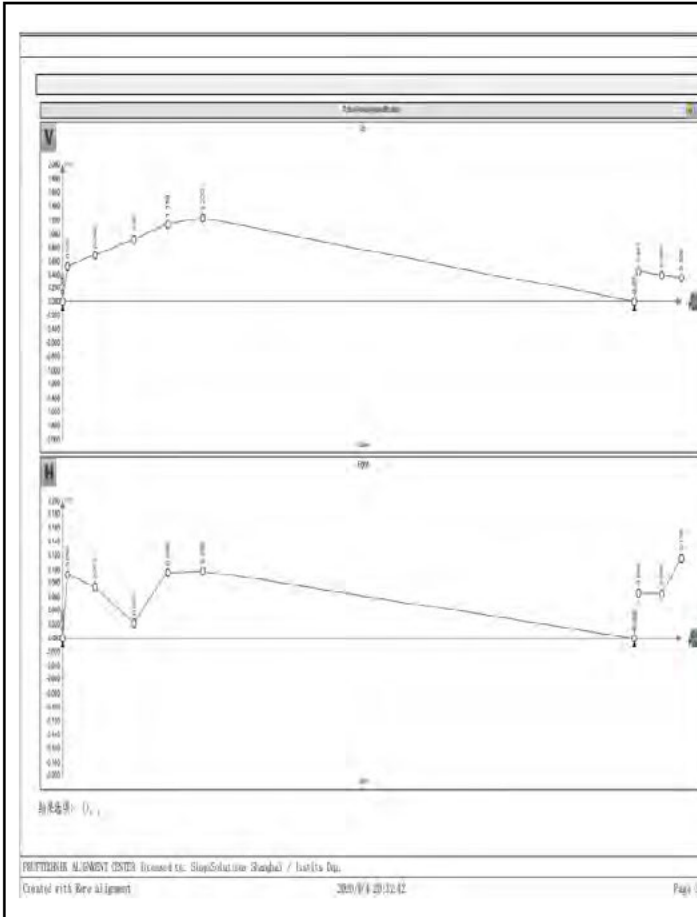
1. laser alignment check.



At the shipyard workshop inspection of new stern tube

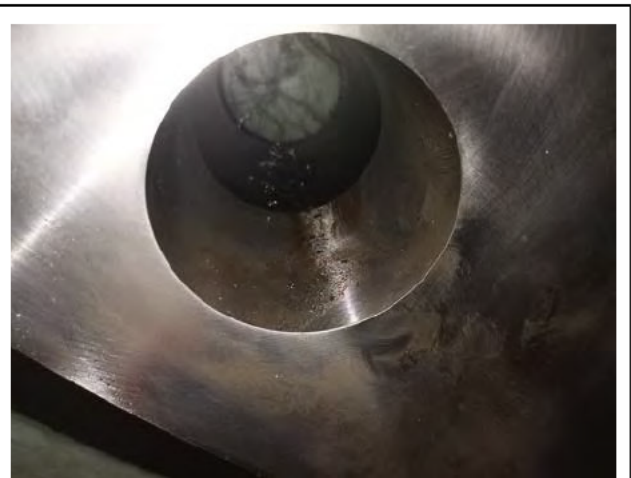
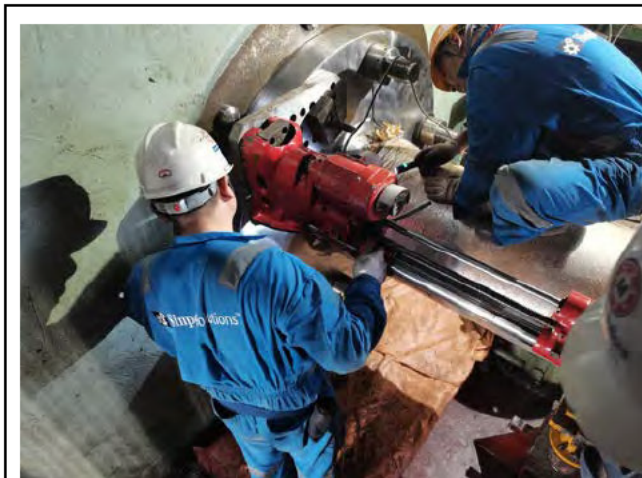


At the shipyard workshop inspection of new stern tube



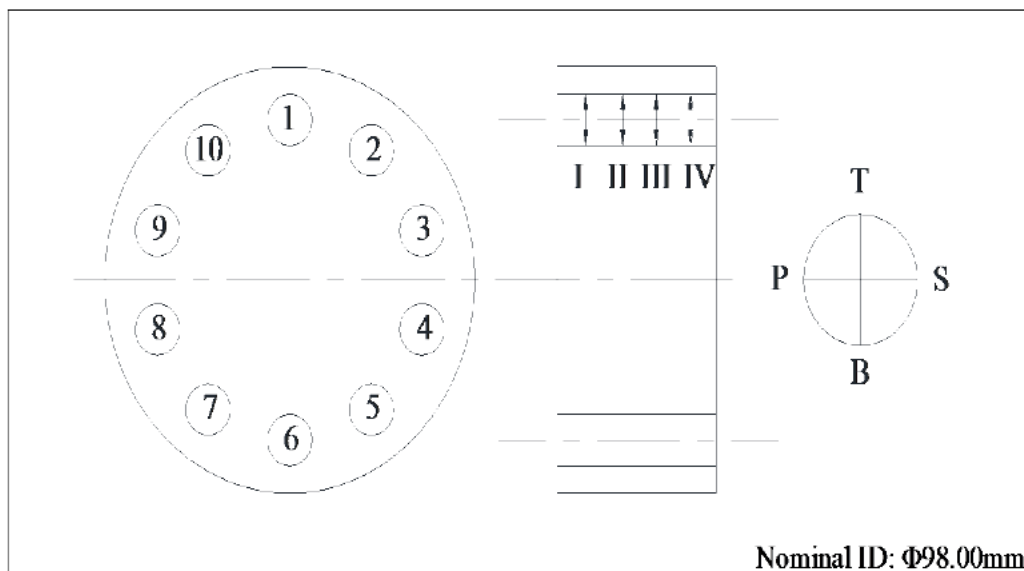
Note: this result was endorsed by MAN.

C. in-situ boring of fly wheel coupling bolts. (10pcs)





1. Coupling Holes Calibration Report After Boring



| Position | I | | II | | III | | IV | |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | T-B | P-S | T-B | P-S | T-B | P-S | T-B | P-S |
| Hole No. 1 | -0.015 | -0.015 | -0.02 | -0.01 | -0.02 | -0.025 | -0.02 | -0.015 |
| 2 | -0.01 | -0.005 | -0.02 | -0.005 | -0.01 | -0.005 | -0.015 | -0.01 |
| 3 | +0.01 | +0.015 | +0.005 | +0.01 | +0.015 | +0.015 | +0.005 | +0.005 |
| 4 | -0.01 | -0.005 | +0.015 | +0.015 | -0.01 | -0.01 | -0.01 | -0.01 |
| 5 | -0.005 | 0 | -0.01 | -0.01 | 0 | 0 | -0.01 | -0.01 |
| 6 | +0.01 | +0.01 | 0 | +0.01 | +0.01 | +0.01 | +0.005 | +0.01 |
| 7 | 0 | 0 | -0.01 | 0 | -0.01 | 0 | -0.01 | 0 |
| 8 | -0.01 | -0.005 | -0.015 | -0.01 | -0.01 | -0.005 | -0.01 | -0.01 |
| 9 | -0.01 | -0.01 | -0.015 | -0.015 | -0.015 | -0.015 | -0.015 | -0.015 |
| 10 | -0.01 | -0.015 | -0.015 | -0.02 | -0.01 | -0.01 | -0.015 | -0.015 |

***D. Since the shipyard was unable to remove the old stern tube, it had to be destroyed.
Then installation new stern tube.***

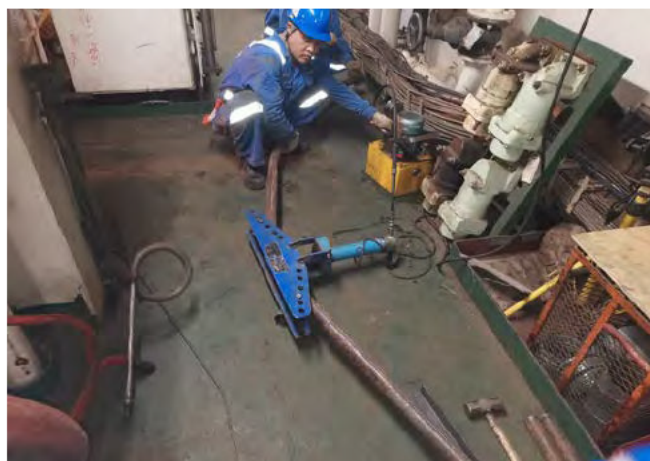


Old stern tube

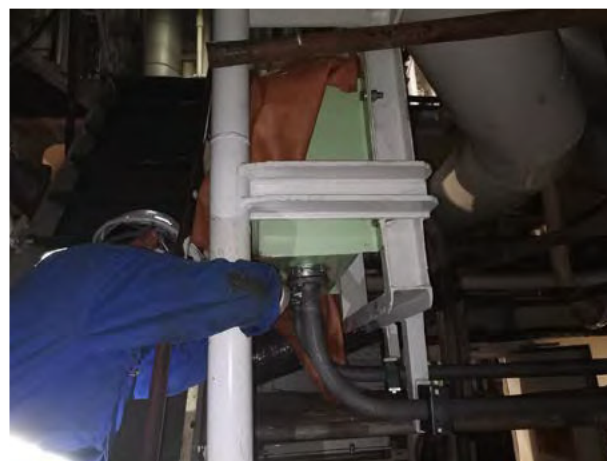


Old stern tube

E. Gravity system pipe modification. And presser test then flushing.



Modification of pipe



Connect pipe



Presser test 3 bar



Flushing



Check oil filter by ship's group



Add new oil

F. new stern tube installation and adjust by special equipment and laser equipment.



New stern tube



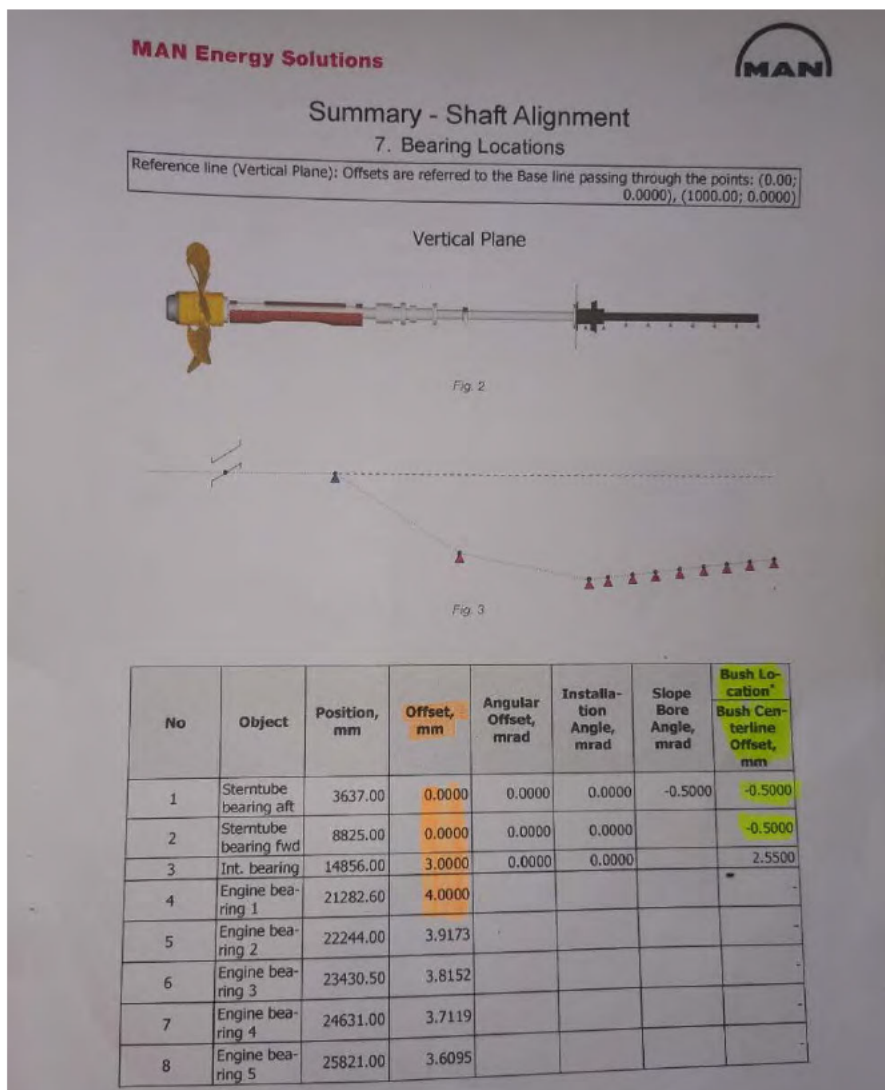
New stern tube



special equipment

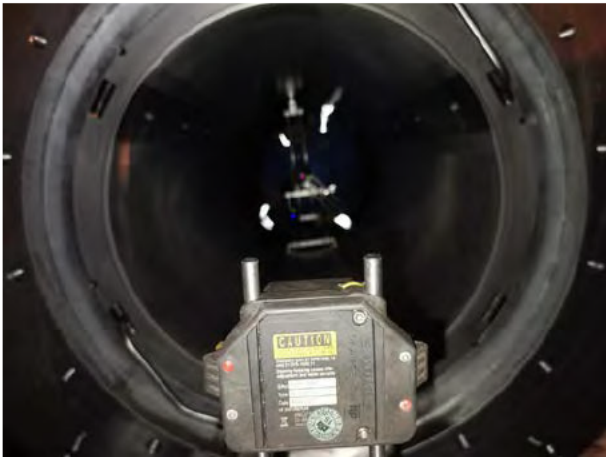


Adjust stern tube

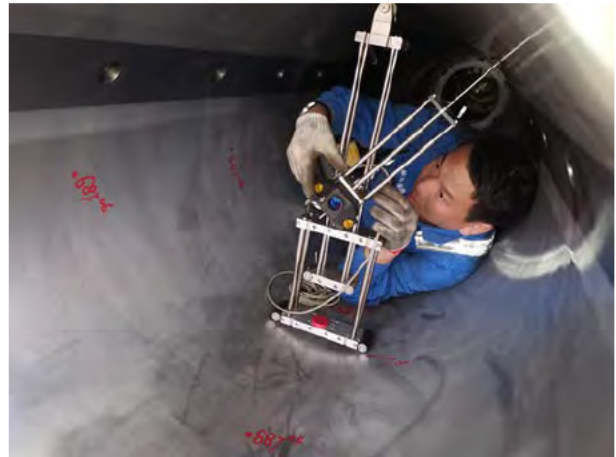


Adjust according to MAN requirements, the main engine position is 4mm lower than the stern tube center.

G. after adjustment used laser to recheck again, three times. (day time, evening time, after chock fast) the final results were confirmed by MAN Denmark.



Laser alignment



Laser alignment

Result

| No. | Name | Line set points | H [mm] | V [mm] | Preset H [mm] | Preset V [mm] | Line presetsH [mm] | Line presets [mm] |
|-----|------|-----------------|----------------|----------------|---------------|---------------|--------------------|-------------------|
| 1 | SB1 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 2 | SB2 | | 0.029 Right | 0.497 Up | --- | --- | --- | --- |
| 3 | SB3 | | -0.025 Left | 0.640 Up | --- | --- | --- | --- |
| 4 | SB4 | | -0.049 Left | 0.813 Up | --- | --- | --- | --- |
| 5 | SB5 | | -0.017 Left | 0.975 Up | --- | --- | --- | --- |
| 6 | SB6 | | -0.020 Left | 1.061 Up | --- | --- | --- | --- |
| 7 | SB7 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 8 | SB8 | | -0.081 Left | 0.379 Up | --- | --- | --- | --- |
| 9 | SB9 | | -0.068 Left | 0.342 Up | --- | --- | --- | --- |
| 10 | SB10 | | -0.070 Left | 0.309 Up | --- | --- | --- | --- |
| 11 | SB11 | | -2.850 Left | -4.501 Down | --- | --- | --- | --- |

1. The results from daytime, 2020.09.26



| <i>Result</i> | | | | | | | | |
|---------------|------|-----------------|----------------|----------------|---------------|---------------|--------------------|--------------------|
| No. | Name | Line set points | H [mm] | V [mm] | Preset H [mm] | Preset V [mm] | Line presetsH [mm] | Line presetsV [mm] |
| 1 | SB1 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 2 | SB2 | | 0.076 Right | 0.581 Up | --- | --- | --- | --- |
| 3 | SB3 | | 0.161 Right | 0.770 Up | --- | --- | --- | --- |
| 4 | SB4 | | 0.004 Right | 0.914 Up | --- | --- | --- | --- |
| 5 | SB5 | | -0.022 Left | 1.038 Up | --- | --- | --- | --- |
| 6 | SB6 | | 0.032 Right | 1.138 Up | --- | --- | --- | --- |
| 7 | SB7 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 8 | SB8 | | 0.027 Right | 0.470 Up | --- | --- | --- | --- |
| 9 | SB9 | | -0.015 Left | 0.482 Up | --- | --- | --- | --- |
| 10 | SB10 | | -0.049 Left | 0.349 Up | --- | --- | --- | --- |
| 11 | SB11 | | -2.204 Left | -4.219 Down | --- | --- | --- | --- |

2. The second time was around 2000pm.2020.09.26

| <i>Result</i> | | | | | | | | |
|---------------|------|-----------------|----------------|----------------|---------------|---------------|--------------------|--------------------|
| No. | Name | Line set points | H [mm] | V [mm] | Preset H [mm] | Preset V [mm] | Line presetsH [mm] | Line presetsV [mm] |
| 1 | SB1 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 2 | SB2 | | 0.023 Right | 0.527 Up | --- | --- | --- | --- |
| 3 | SB3 | | 0.003 Right | 0.641 Up | --- | --- | --- | --- |
| 4 | SB4 | | 0.015 Right | 0.904 Up | --- | --- | --- | --- |
| 5 | SB5 | | -0.025 Left | 0.975 Up | --- | --- | --- | --- |
| 6 | SB6 | | -0.015 Left | 1.127 Up | --- | --- | --- | --- |
| 7 | SB7 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 8 | SB8 | | 0.015 Right | 0.358 Up | --- | --- | --- | --- |
| 9 | SB9 | | -0.019 Left | 0.378 Up | --- | --- | --- | --- |
| 10 | SB10 | | -0.050 Left | 0.318 Up | --- | --- | --- | --- |
| 11 | SB11 | | -1.695 Left | -4.201 Down | --- | --- | --- | --- |

3. The third result comes from after chock fast. And get final confirmation.

2020.09.28 2200pm

H. Re-chockfasting. check and approved by DNV and ship's owner.



Chock fast



Apply by ship's owner

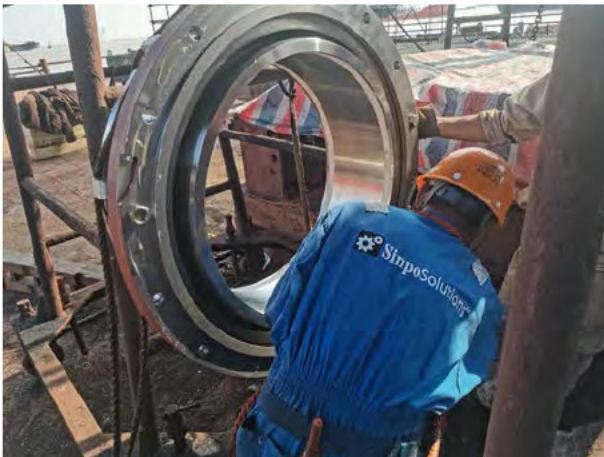
I. Installation new propeller shaft with new seal and SKF coupling. And new OD shaft.



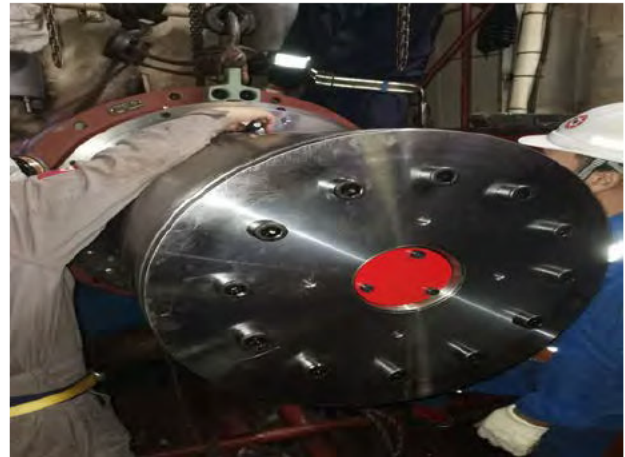
New propeller shaft



New propeller shaft



New AFT seal



New FWD seal



Tighten of SKF coupling



Check final length



Make od shaft with coupling center



Installation internal connection pipe



Installation insurance

I. Installation mounting bolts. check and approved by DNV GL.



Bolt of SKF coupling with OD shaft



OD shaft & I/M shaft



Fly wheel coupling

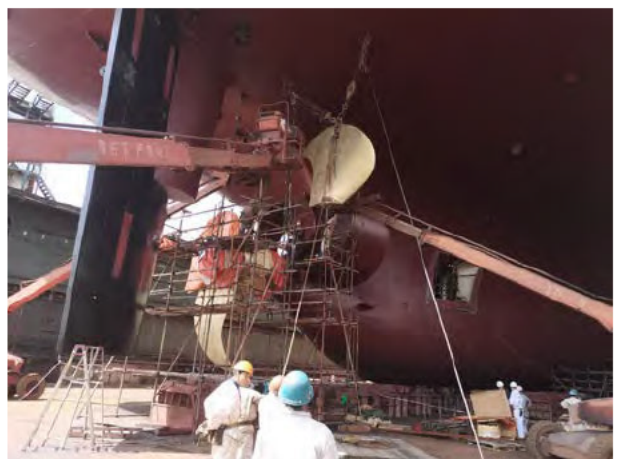


Check and approved by DNV GL

J. Installation of propeller blades.



New blades



New blades



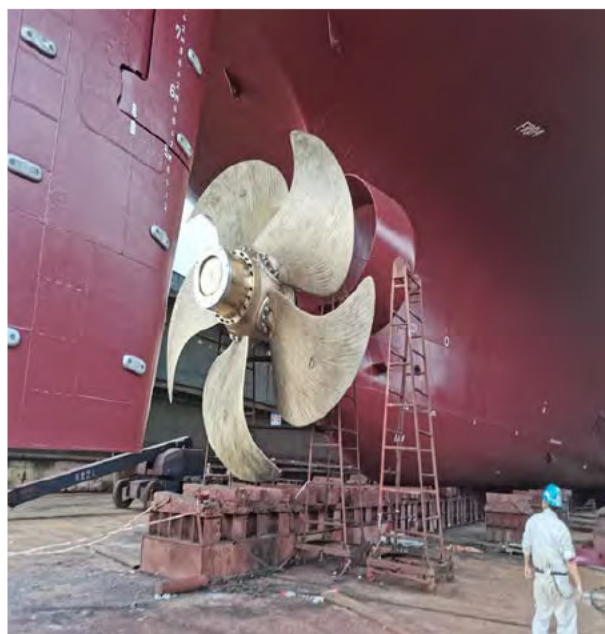
In accordance with instructions for tighten of bolt



Measuring bolt stretch



Check the rotation angle of bolt



After finish installation

H. Jack up test of FWD stern tube bearing, I/M shaft bearing, AFT most bearing, the M/E No.7 unit FWD & Aft main bearing.



FWD stern tube bearing



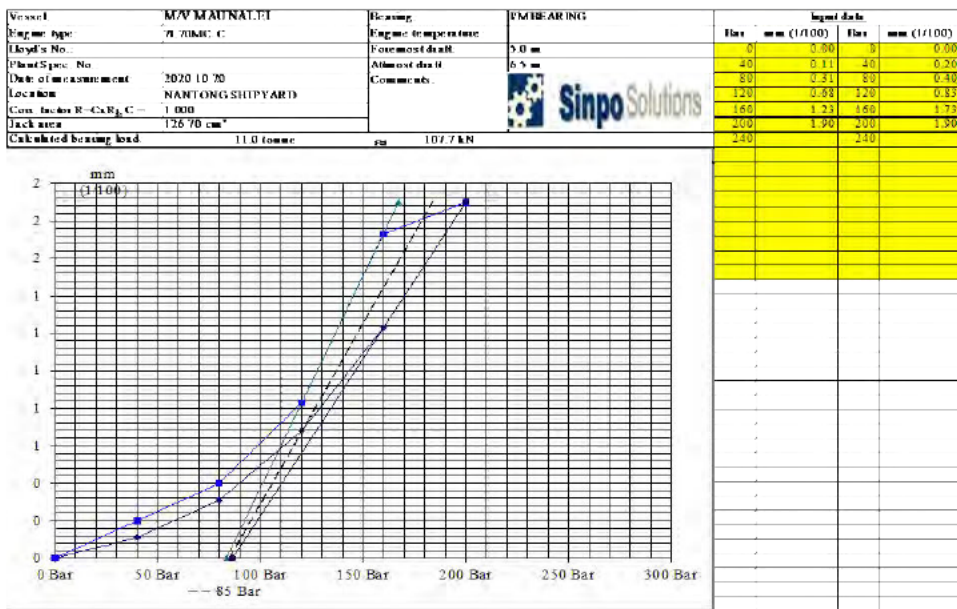
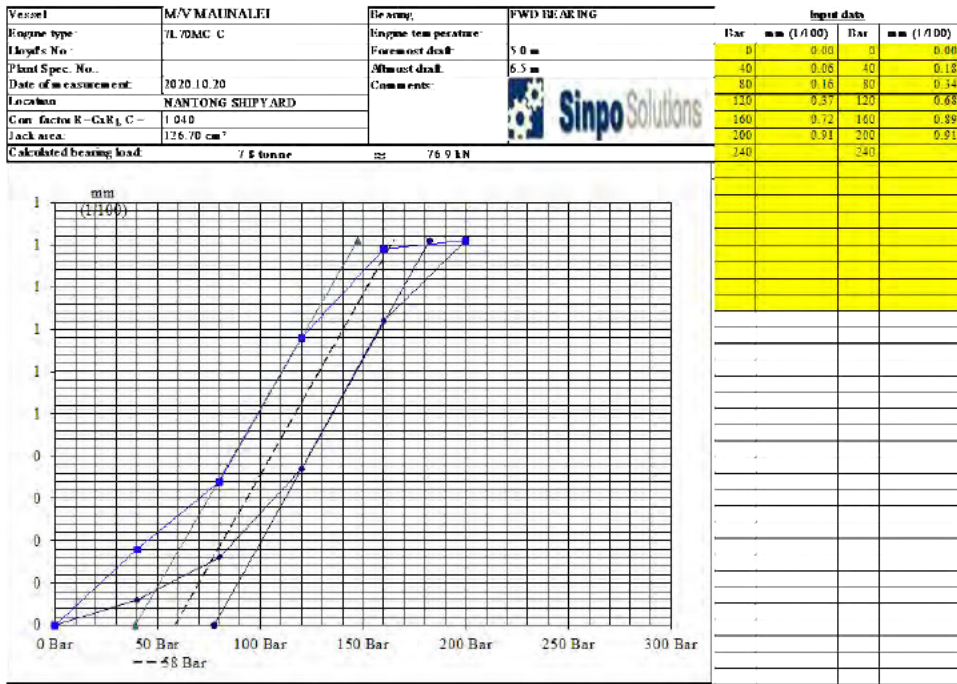
I/M shaft bearing

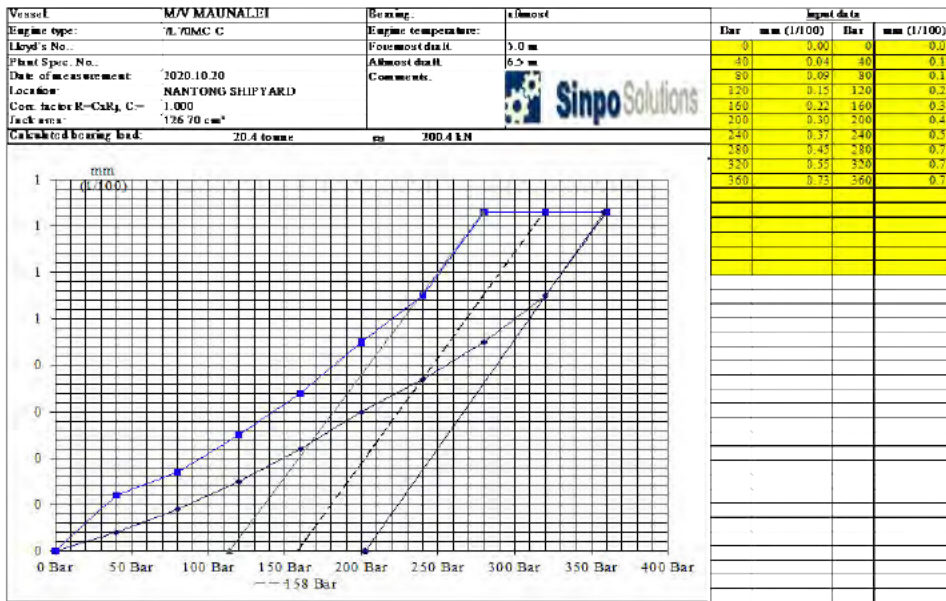


AFTMOST



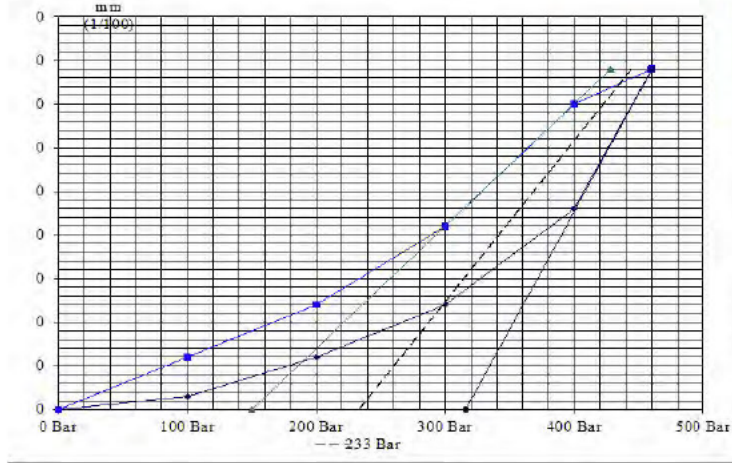
No.7unit FWD & AFT main bearing







| | | | | | | | |
|-------------------------|------------------------|--------------------|---------------------------|------------|------------|-----|------------|
| Vessel | MAN MAUNALIFE | Bearing | No 7 and fwd main bearing | Input data | | | |
| Engine type | 7L 70MC C | Engine temperature | | Bar | mm (1/100) | Bar | mm (1/100) |
| Block No. | | Foremast draft | 5.0 m | 0 | 0.00 | 0 | 0.00 |
| Plant Spec. No. | | Aftmast draft | 6.5 m | 100 | 0.02 | 100 | 0.06 |
| Date of measurement | 2020 10 20 | Comments | | 200 | 0.05 | 200 | 0.12 |
| Location | NANTONG SHIPYARD | | | 300 | 0.12 | 300 | 0.21 |
| Com. factor R-CxRx-C | 1.000 | | | 400 | 0.23 | 400 | 0.33 |
| Jack area | 126.70 cm ² | | | 460 | 0.30 | 460 | 0.39 |
| Calculated bearing load | 30.1 tonne | | 293.2 kN | | | | |



Note: confirmation of results by MAN Denmark.

I. check of M/E deflection.

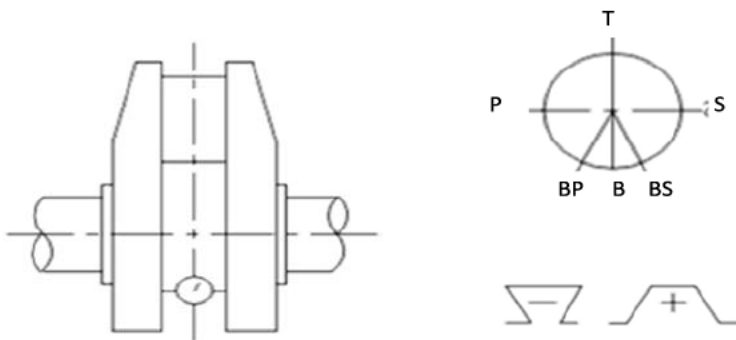




SHANGHAI SINPO SOLUTIONS CO.,LTD
 上海新坡船舶工程有限公司
 Block No.1, No.25 Hangdu Road, Sinpo Industrial Zone, Hangtoun
 Town, Pudong New District, Shanghai, China. Post Code:201316
 上海市浦东新区航头镇航都路25号一号厂房
 Tel: +86-21-6118-0982 Fax: +86-21-61180980
 Email: Info@sinposolutions.com

| | | | |
|----------------------|----------------|----------------|------------|
| Vessel Name: | M/V "MAUNALEI" | Job No: | |
| Engine Model: | 7L70MC-C | Class: | |
| Inspector: | si wei | Date: | 2020.10.22 |

M/E crank shaft deflection



Before dock (2020.09.13)

| Point \ Cyl.No | Cyl.No | | | | | | |
|----------------|--------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| T | +0.02 | -0.02 | +0.09 | +0.08 | +0.14 | +0.28 | -0.26 |
| P | +0.02 | +0.02 | 0 | -0.02 | +0.06 | +0.12 | -0.20 |
| BP | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BS | 0 | +0.06 | -0.02 | -0.04 | +0.03 | +0.04 | -0.02 |
| S | 0 | -0.05 | 0 | +0.04 | +0.02 | +0.10 | -0.08 |

After dock (2020.10.21)

| Point \ Cyl.No | Cyl.No | | | | | | |
|----------------|--------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| T | -0.02 | -0.12 | +0.04 | +0.02 | +0.12 | +0.22 | -0.29 |
| P | -0.04 | -0.12 | -0.02 | -0.04 | +0.04 | +0.08 | -0.20 |
| BP | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BS | 0 | +0.02 | 0 | +0.03 | 0 | +0.02 | +0.04 |
| S | -0.03 | -0.06 | +0.02 | +0.03 | +0.02 | +0.10 | -0.18 |

Remark:

RECEIVED BY: _____
 Customer's Signature & Chop

K. Chockfast of I/M shaft bearing foundation.



Preparatory work



stir



pouring

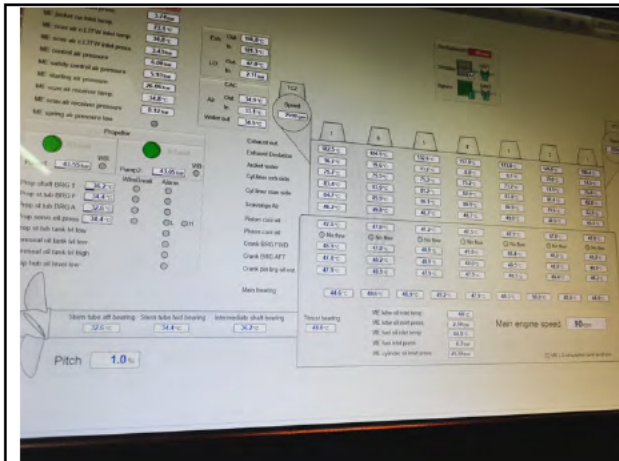


Check by DNV GL and ship's owner

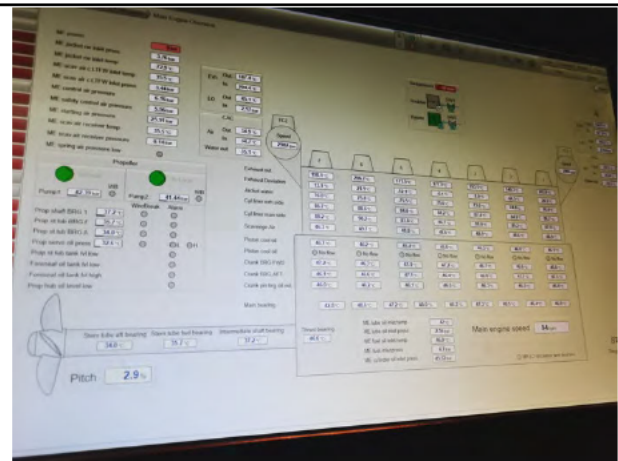


Confirmation and signature

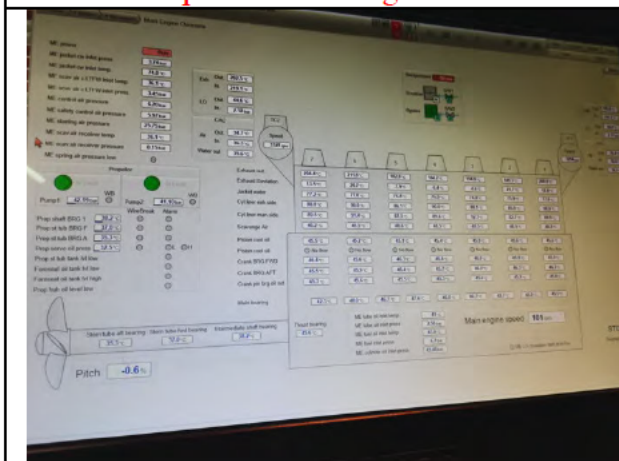
J. Sea trial.



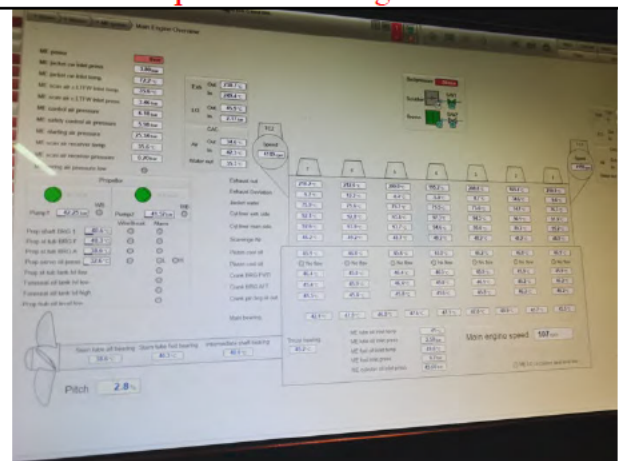
90 rpm shaft bearing condition



94 rpm shaft bearing condition



101 rpm shaft bearing condition



107 rpm shaft bearing condition

Conclusions:

Ship's Stamp and Sign of either
Mater / Chief Engineer /
Superintendent

Date

Name in print and sign
of SINPO representative

Date

SHANGHAI SINPO SOLUTIONS CO., LTD
Block No.1, No.25 Hang Du Road, Sinpo Industrial
Zone Pu Dong New District Shanghai China 201316



File information

Name: M/V MAUNALEI STERN TUBE AFTER ADJUST
Location: COSCO NANTONG SHIPYARD
Username:
Last measured: 2020/9/26

Dimensions (graphical)



Dimensions

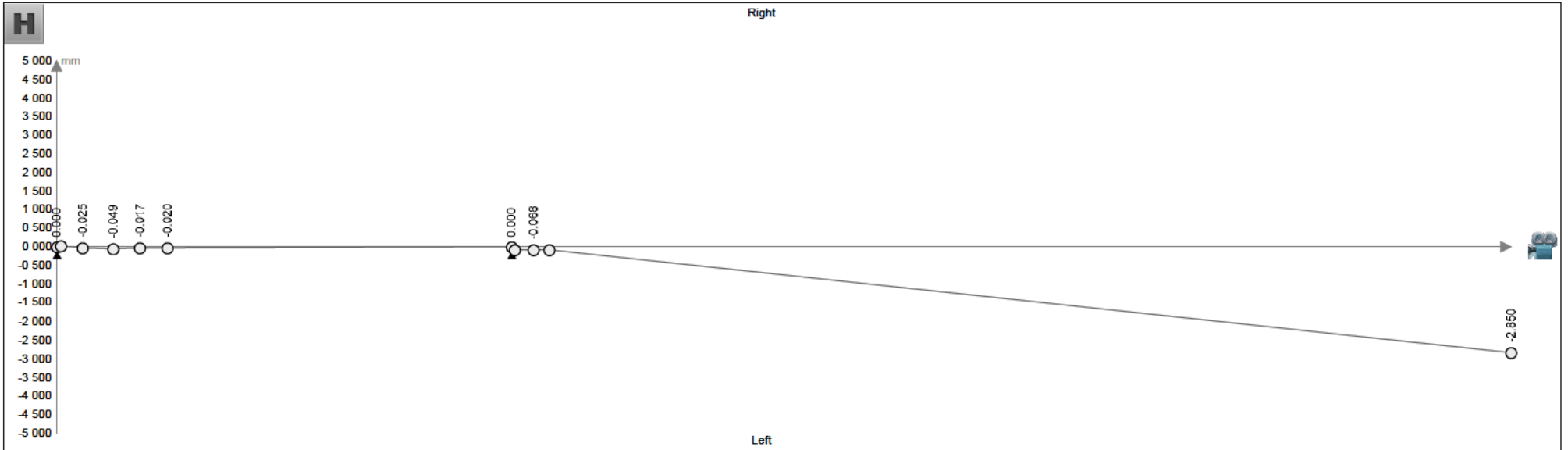
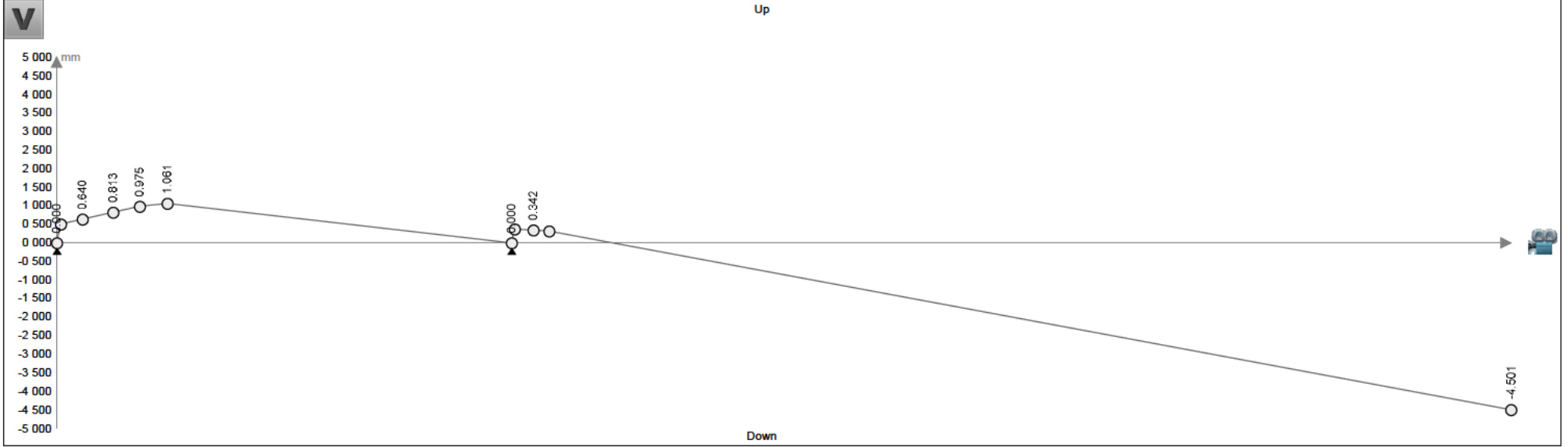
| <i>No.</i> | <i>Name</i> | <i>Type</i> | <i>Position</i> [mm] | <i>Diameter</i> [mm] |
|------------|-------------|-------------|-------------------------|-------------------------|
| 1 | SB1 | Simple bore | 0 | 100 |
| 2 | SB2 | Simple bore | 45 | 100 |
| 3 | SB3 | Simple bore | 320 | 100 |
| 4 | SB4 | Simple bore | 700 | 100 |
| 5 | SB5 | Simple bore | 1030 | 100 |
| 6 | SB6 | Simple bore | 1370 | 100 |
| 7 | SB7 | Simple bore | 5620 | 100 |
| 8 | SB8 | Simple bore | 5660 | 100 |
| 9 | SB9 | Simple bore | 5890 | 100 |
| 10 | SB10 | Simple bore | 6090 | 100 |
| 11 | SB11 | Simple bore | 17980 | 100 |

Targets

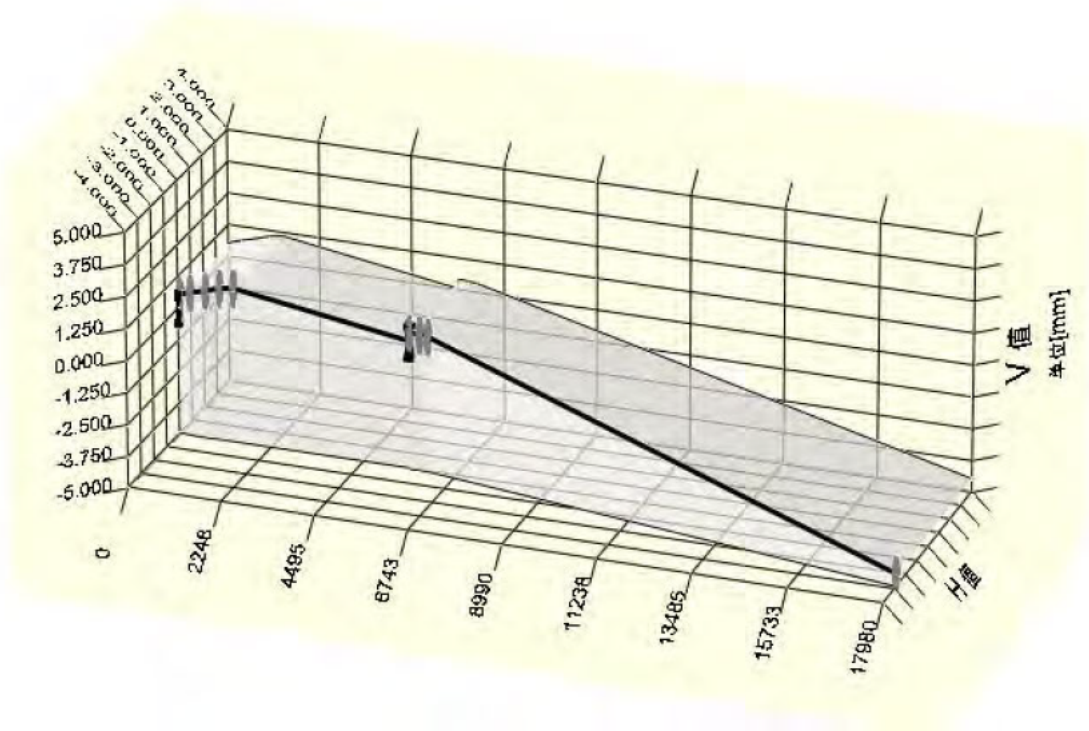
No targets defined!

Result 2D

Actual minus specification



结果选项: (), ,



Result

| <i>No.</i> | <i>Name</i> | <i>Line set points</i> | <i>H [mm]</i> | <i>V [mm]</i> | <i>Preset H [mm]</i> | <i>Preset V [mm]</i> | <i>Line presetsH [mm]</i> | <i>Line presetsV [mm]</i> |
|------------|-------------|--------------------------------|-------------------|-------------------|--------------------------|--------------------------|-----------------------------------|-------------------------------|
| 1 | SB1 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 2 | SB2 | | 0.029 Right | 0.497 Up | --- | --- | --- | --- |
| 3 | SB3 | | -0.025 Left | 0.640 Up | --- | --- | --- | --- |
| 4 | SB4 | | -0.049 Left | 0.813 Up | --- | --- | --- | --- |
| 5 | SB5 | | -0.017 Left | 0.975 Up | --- | --- | --- | --- |
| 6 | SB6 | | -0.020 Left | 1.061 Up | --- | --- | --- | --- |
| 7 | SB7 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 8 | SB8 | | -0.081 Left | 0.379 Up | --- | --- | --- | --- |
| 9 | SB9 | | -0.068 Left | 0.342 Up | --- | --- | --- | --- |
| 10 | SB10 | | -0.070 Left | 0.309 Up | --- | --- | --- | --- |
| 11 | SB11 | | -2.850 Left | -4.501 Down | --- | --- | --- | --- |

SHANGHAI SINPO SOLUTIONS CO., LTD
Block No.1, No.25 Hang Du Road, Sinpo Industrial
Zone Pu Dong New District Shanghai China 201316



File information

Name: M/V MAUNALEI STERN TUBE AFTER ADJUST
Location: NANTONG COSCO SHIPYARD
Username: SECOND TIME
Last measured: 2020/9/26 20:58:50

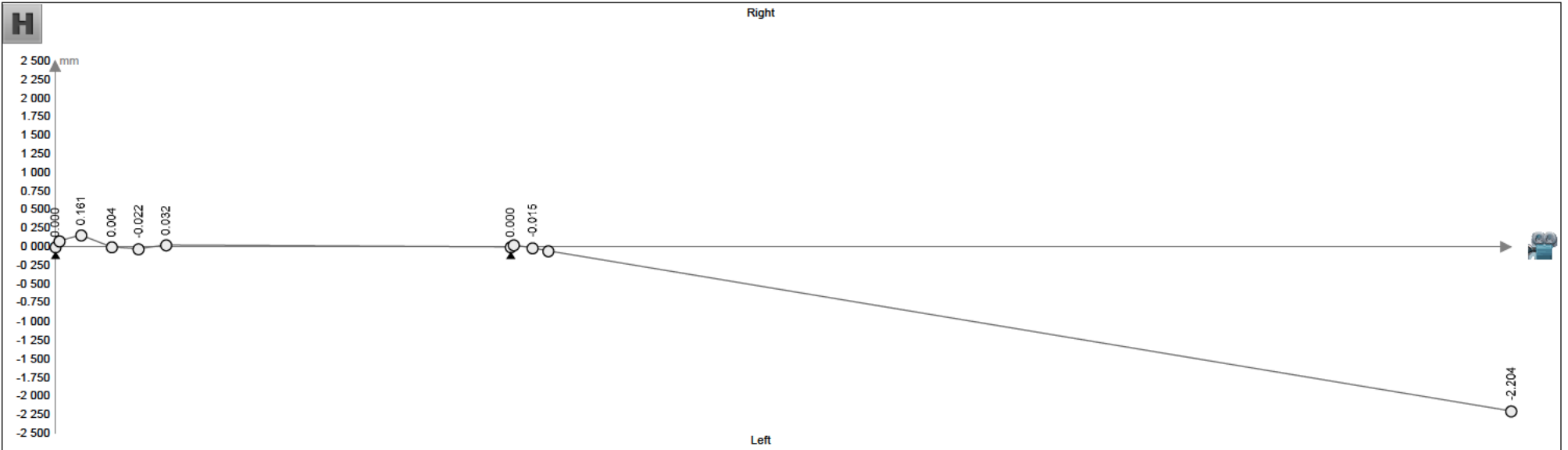
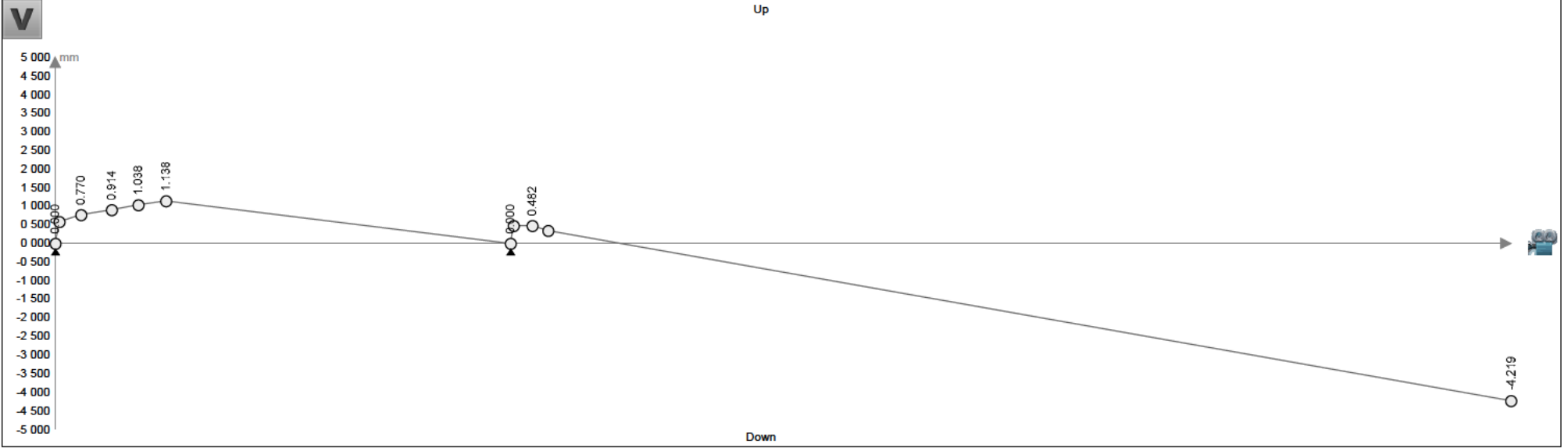
Dimensions (graphical)

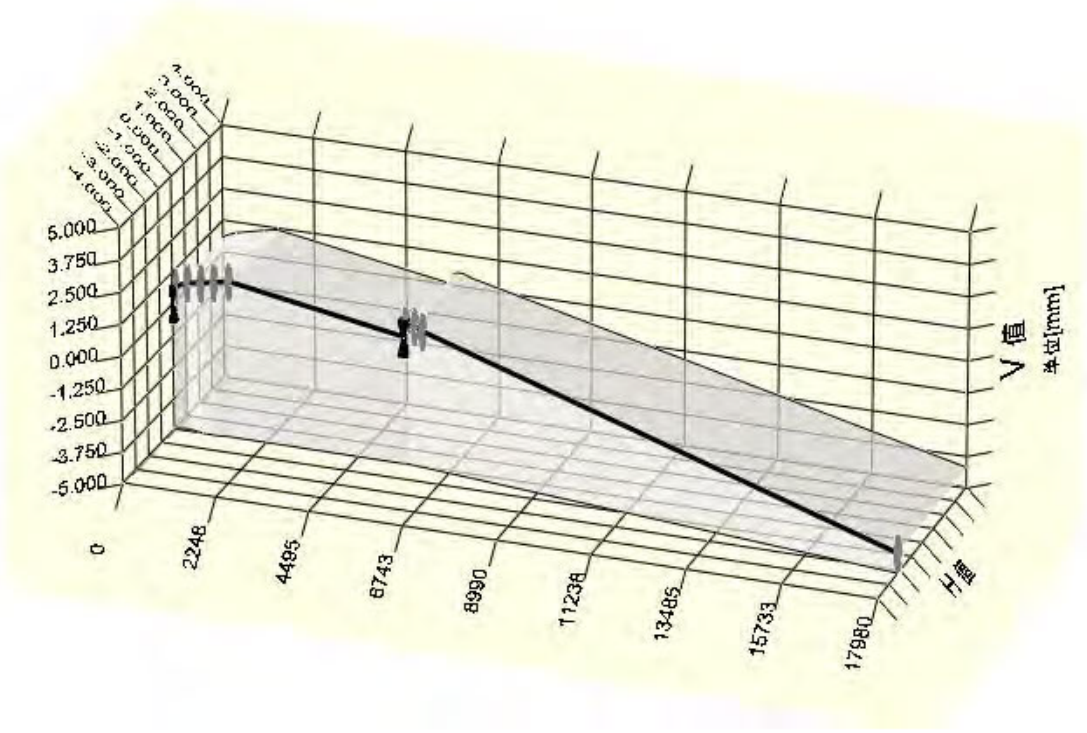


Dimensions

| <i>No.</i> | <i>Name</i> | <i>Type</i> | <i>Position</i> [mm] | <i>Diameter</i> [mm] |
|------------|-------------|-------------|-------------------------|-------------------------|
| 1 | SB1 | Simple bore | 0 | 100 |
| 2 | SB2 | Simple bore | 45 | 100 |
| 3 | SB3 | Simple bore | 320 | 100 |
| 4 | SB4 | Simple bore | 700 | 100 |
| 5 | SB5 | Simple bore | 1030 | 100 |
| 6 | SB6 | Simple bore | 1370 | 100 |
| 7 | SB7 | Simple bore | 5620 | 100 |
| 8 | SB8 | Simple bore | 5660 | 100 |
| 9 | SB9 | Simple bore | 5890 | 100 |
| 10 | SB10 | Simple bore | 6090 | 100 |
| 11 | SB11 | Simple bore | 17980 | 100 |

Actual minus specification





Result

| <i>No.</i> | <i>Name</i> | <i>Line set points</i> | <i>H</i> [mm] | <i>V</i> [mm] | <i>Preset H</i> [mm] | <i>Preset V</i> [mm] | <i>Line presetsH</i> [mm] | <i>Line presetsV</i> [mm] |
|------------|-------------|------------------------|------------------|------------------|-------------------------|-------------------------|------------------------------|------------------------------|
| 1 | SB1 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 2 | SB2 | | 0.076 Right | 0.581 Up | --- | --- | --- | --- |
| 3 | SB3 | | 0.161 Right | 0.770 Up | --- | --- | --- | --- |
| 4 | SB4 | | 0.004 Right | 0.914 Up | --- | --- | --- | --- |
| 5 | SB5 | | -0.022 Left | 1.038 Up | --- | --- | --- | --- |
| 6 | SB6 | | 0.032 Right | 1.138 Up | --- | --- | --- | --- |
| 7 | SB7 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 8 | SB8 | | 0.027 Right | 0.470 Up | --- | --- | --- | --- |
| 9 | SB9 | | -0.015 Left | 0.482 Up | --- | --- | --- | --- |
| 10 | SB10 | | -0.049 Left | 0.349 Up | --- | --- | --- | --- |
| 11 | SB11 | | -2.204 Left | -4.219 Down | --- | --- | --- | --- |

SHANGHAI SINPO SOLUTIONS CO., LTD
Block No.1, No.25 Hang Du Road, Sinpo Industrial
Zone Pu Dong New District Shanghai China 201316



File information

Name: M/V MAUNALEI AFTER CHOCK FAST
Location:
Username: NANTONG COSCO SHIPYARD
Last measured: 2020/9/28 23:54

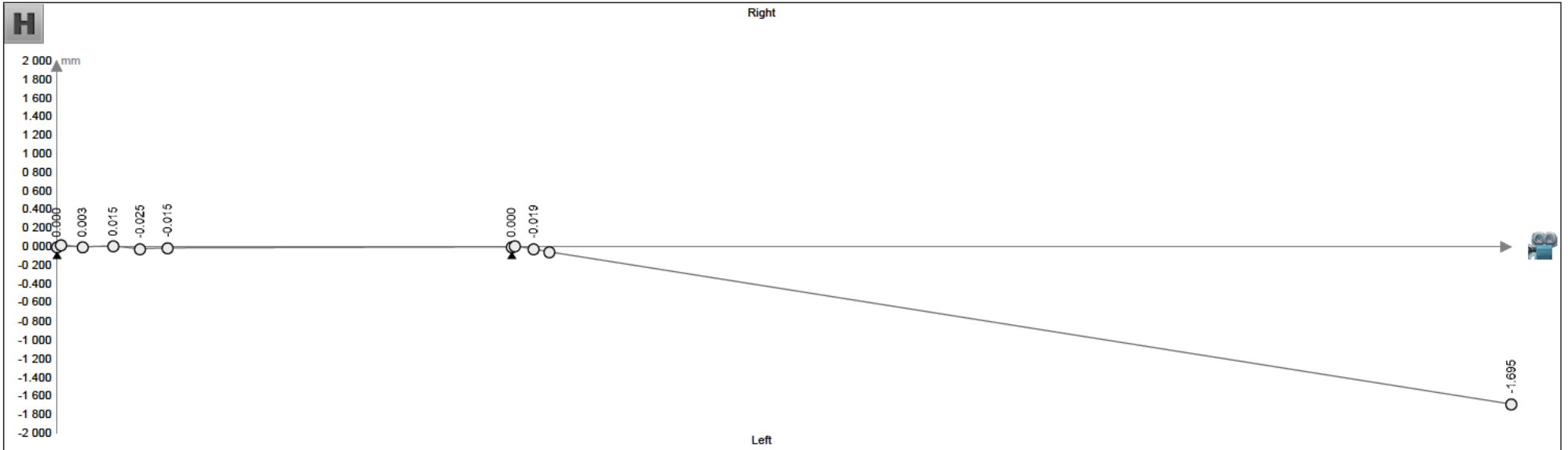
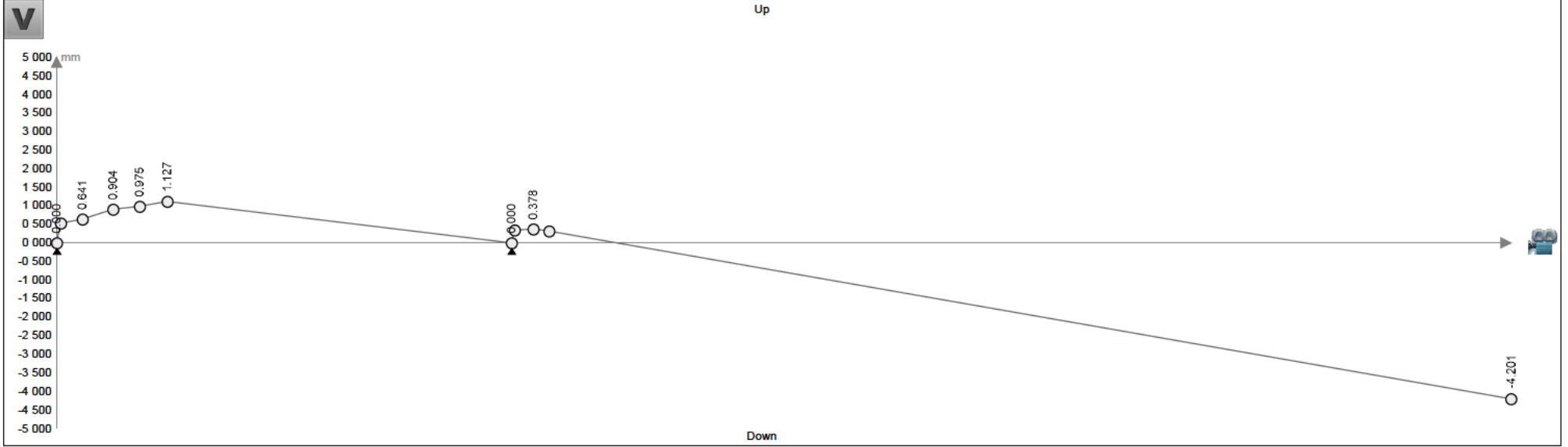
Dimensions (graphical)



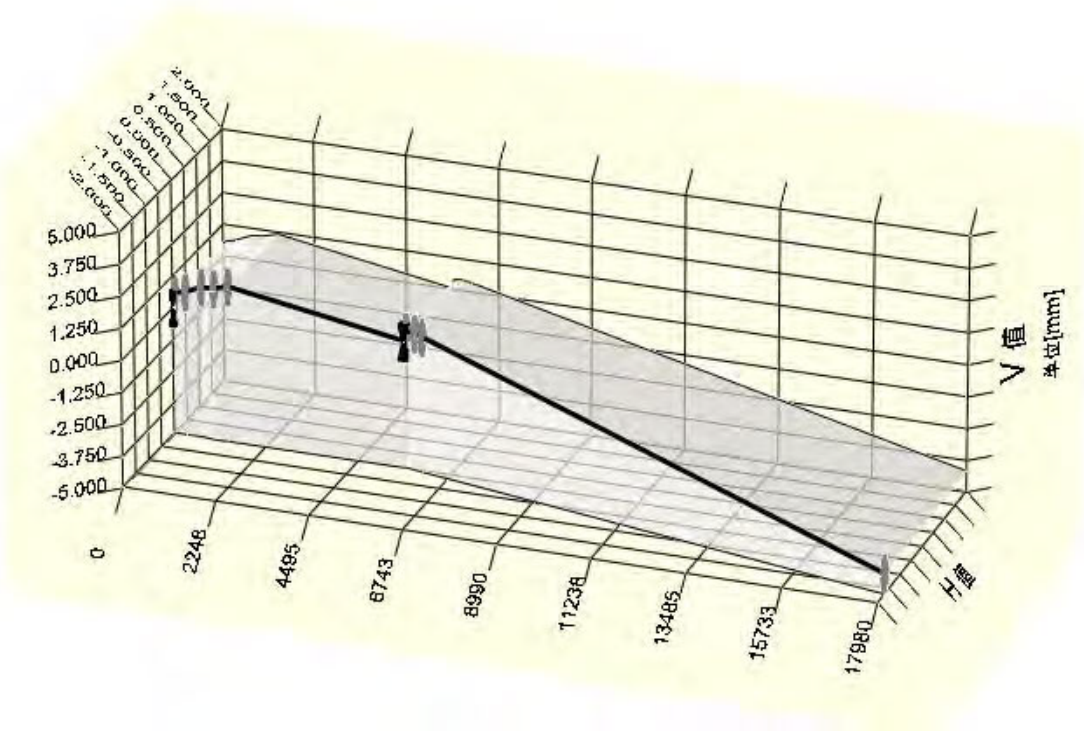
Dimensions

| <i>No.</i> | <i>Name</i> | <i>Type</i> | <i>Position</i> [mm] | <i>Diameter</i> [mm] |
|------------|-------------|-------------|-------------------------|-------------------------|
| 1 | SB1 | Simple bore | 0 | 100 |
| 2 | SB2 | Simple bore | 45 | 100 |
| 3 | SB3 | Simple bore | 320 | 100 |
| 4 | SB4 | Simple bore | 700 | 100 |
| 5 | SB5 | Simple bore | 1030 | 100 |
| 6 | SB6 | Simple bore | 1370 | 100 |
| 7 | SB7 | Simple bore | 5620 | 100 |
| 8 | SB8 | Simple bore | 5660 | 100 |
| 9 | SB9 | Simple bore | 5890 | 100 |
| 10 | SB10 | Simple bore | 6090 | 100 |
| 11 | SB11 | Simple bore | 17980 | 100 |

Actual minus specification



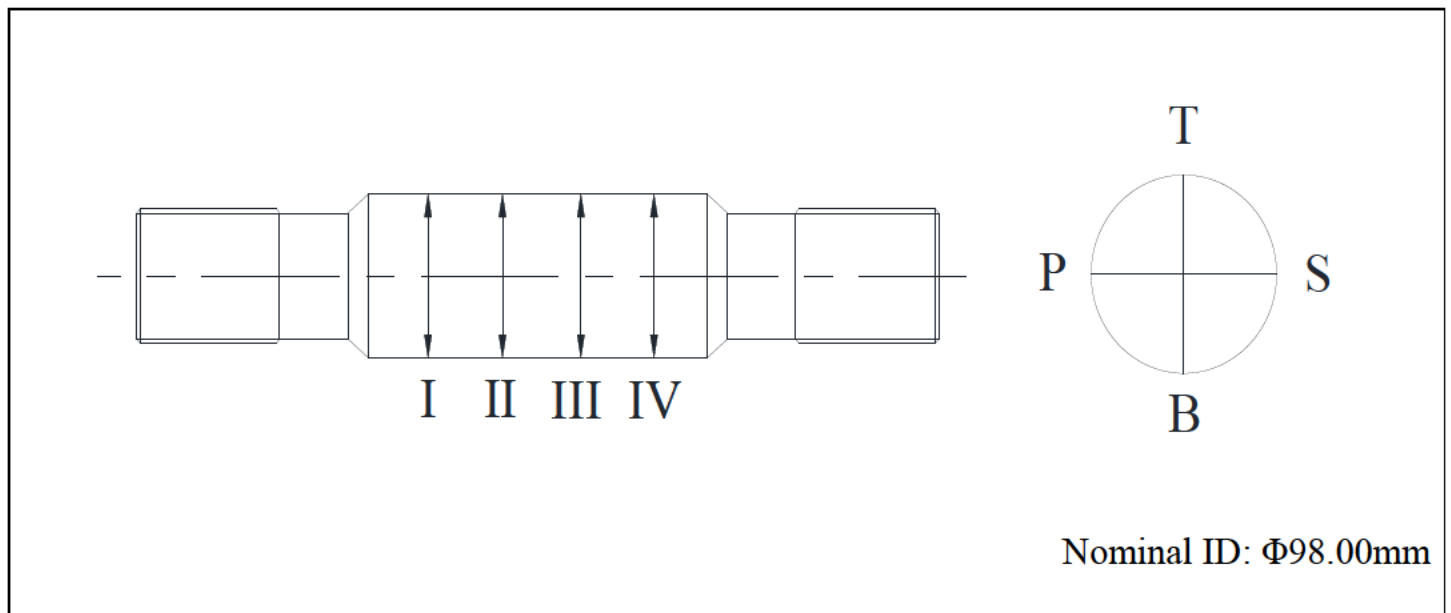
Results 3D



| <i>Result</i> | | | | | | | | |
|---------------|-------------|--------------------------------|-------------------|-------------------|--------------------------|--------------------------|-----------------------------------|-------------------------------|
| <i>No.</i> | <i>Name</i> | <i>Line set points</i> | <i>H [mm]</i> | <i>V [mm]</i> | <i>Preset H [mm]</i> | <i>Preset V [mm]</i> | <i>Line presetsH [mm]</i> | <i>Line presetsV [mm]</i> |
| 1 | SB1 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 2 | SB2 | | 0.023 Right | 0.527 Up | --- | --- | --- | --- |
| 3 | SB3 | | 0.003 Right | 0.641 Up | --- | --- | --- | --- |
| 4 | SB4 | | 0.015 Right | 0.904 Up | --- | --- | --- | --- |
| 5 | SB5 | | -0.025 Left | 0.975 Up | --- | --- | --- | --- |
| 6 | SB6 | | -0.015 Left | 1.127 Up | --- | --- | --- | --- |
| 7 | SB7 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 8 | SB8 | | 0.015 Right | 0.358 Up | --- | --- | --- | --- |
| 9 | SB9 | | -0.019 Left | 0.378 Up | --- | --- | --- | --- |
| 10 | SB10 | | -0.050 Left | 0.318 Up | --- | --- | --- | --- |
| 11 | SB11 | | -1.695 Left | -4.201 Down | --- | --- | --- | --- |

Vessel : M/V "MAUNALEP" Job Number : AE201988
 Goods Name : Coupling bolts Class : DNV-GL

1. Coupling Bolts Calibration Report After Grinding



| Position Hole No. | I | | II | | III | | IV | |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | T-B | P-S | T-B | P-S | T-B | P-S | T-B | P-S |
| 1 | -0.015 | -0.015 | -0.015 | -0.015 | -0.01 | -0.015 | -0.015 | -0.015 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | +0.02 | +0.02 | +0.02 | +0.02 | +0.02 | +0.02 | +0.02 | +0.02 |
| 4 | +0.005 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | +0.01 | +0.01 | +0.01 | +0.01 | +0.01 | +0.01 | +0.01 | +0.01 |
| 6 | +0.02 | +0.015 | +0.02 | +0.02 | +0.02 | +0.02 | +0.02 | +0.02 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | +0.005 | +0.005 | +0.005 | +0.005 | +0.005 | +0.005 | +0.005 | +0.005 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | +0.01 |

SHANGHAI SINPO SOLUTIONS CO. LTD.

上海新坡船舶工程有限公司

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Tel: +86 21-6118 0981

Fax: +

E-Mail:

Vessel : M/V "MAUNALEP"
Goods Name : Coupling bolts

Job Number : AE201988
Class : DNV-GL

2. Photo Report



Coupling bolts view when received



Grinding contact surface



Calibration after grinding



Coupling bolts contact surface view after grinding



Punch 1 to 10 marking on coupling bolts end surface



Coupling bolts view after grinding

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Tel: +86 21-6118 0981

Fax: +

E-Mail:

Vessel : M/V "MAUNALEI" Job Number : AE201988
Goods Name : Coupling bolts Class : DNV-GL

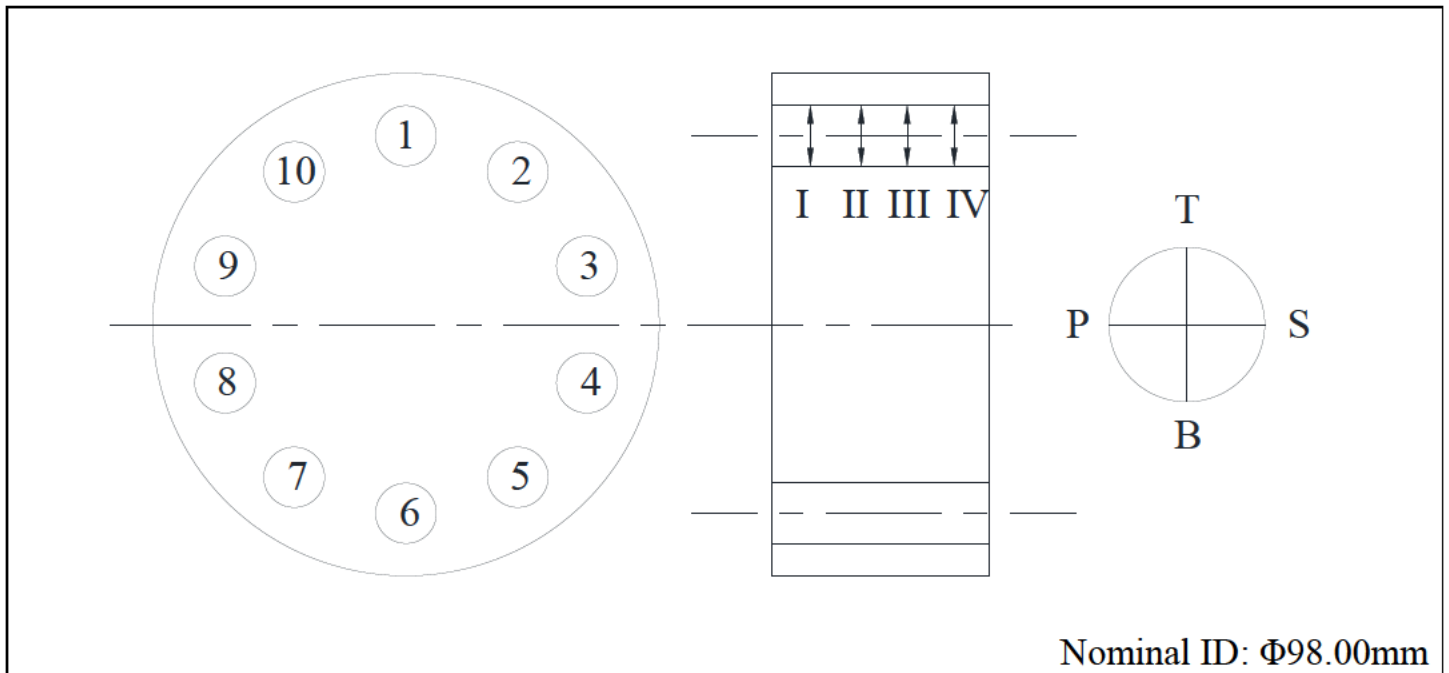
3. Conclusions

1. Grinding coupling bolts ×10pcs at SINPO workshop from 24/Sep/2020 to 27/Sep/2020.
2. Interference between coupling holes and bolts is 0.005 to 0.015mm.
3. 1 to 10 marking is punched on coupling bolts end surface to match coupling holes.
4. Qualified to delivery.

| Inspected by | Reviewed by | Approved by | Approval Date |
|--------------|-------------|-------------|---------------|
| Chen Hong | Gun Jun | ZM Yan | 2020-09-27 |

Vessel : M/V "MAUNALEP" Job Number : AE201988
 Goods Name : Flywheel Coupling Holes Class : DNV-GL

1. Coupling Holes Calibration Report After Boring



| Position Hole No. | I | | II | | III | | IV | |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | T-B | P-S | T-B | P-S | T-B | P-S | T-B | P-S |
| 1 | -0.015 | -0.015 | -0.02 | -0.01 | -0.02 | -0.025 | -0.02 | -0.015 |
| 2 | -0.01 | -0.005 | -0.02 | -0.005 | -0.01 | -0.005 | -0.015 | -0.01 |
| 3 | +0.01 | +0.015 | +0.005 | +0.01 | +0.015 | +0.015 | +0.005 | +0.005 |
| 4 | -0.01 | -0.005 | +0.015 | +0.015 | -0.01 | -0.01 | -0.01 | -0.01 |
| 5 | -0.005 | 0 | -0.01 | -0.01 | 0 | 0 | -0.01 | -0.01 |
| 6 | +0.01 | +0.01 | 0 | +0.01 | +0.01 | +0.01 | +0.005 | +0.01 |
| 7 | 0 | 0 | -0.01 | 0 | -0.01 | 0 | -0.01 | 0 |
| 8 | -0.01 | -0.005 | -0.015 | -0.01 | -0.01 | -0.005 | -0.01 | -0.01 |
| 9 | -0.01 | -0.01 | -0.015 | -0.015 | -0.015 | -0.015 | -0.015 | -0.015 |
| 10 | -0.01 | -0.015 | -0.015 | -0.02 | -0.01 | -0.01 | -0.015 | -0.015 |

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上海市浦东新区航头镇森普工业园区航都路 25 号 1 号厂房 邮编:201316

Tel: +86 21-6118 0981

Fax: +

E-Mail:

Vessel : M/V "MAUNALEP"
Goods Name : Flywheel Coupling Holes

Job Number : AE201988
Class : DNV-GL

2. Photo Report



Coupling hole view before boring



In-situ boring coupling holes



In-situ boring coupling holes



In-situ boring coupling holes



Coupling hole view after boring



Calibrate coupling hole inner diameter after boring

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Tel: +86 21-6118 0981

Fax: +

E-Mail:

Vessel : M/V "MAUNALEI" Job Number : AE201988
Goods Name : Flywheel Coupling Holes Class : DNV-GL

3. Conclusions

In-situ boring of flywheel coupling holes in COSCO (Nantong) Shipyard from 20/Sep/2020 to 23/Sep/2020.

| Inspected by | Reviewed by | Approved by | Approval Date |
|--------------|-------------|-------------|---------------|
| Chen Hong | Si Wei | Gu Jun | 2020-09-23 |



Sinpo Solutions

SHANGHAI SINPO SOLUTIONS CO.,LTD

上海新坡船舶工程有限公司

Block No.1, No.25 Hangdu Road, Sinpo Industrial Zone, Hangtoun

Town, Pudong New District, Shanghai, China. Post Code:201316

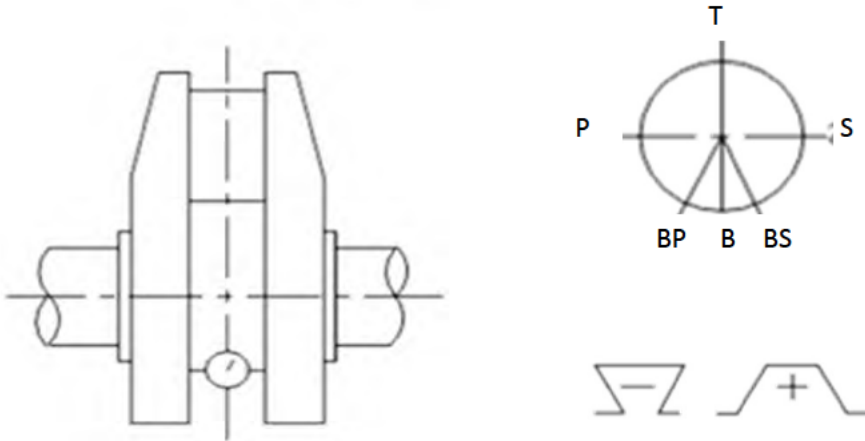
上海市浦东新区航头镇航都路25号一号厂房

Tel: +86-21-6118-0982 Fax: +86-21-61180980

Email: [REDACTED]

| | | | |
|---------------|----------------|---------|------------|
| Vessel Name: | M/V "MAUNALEI" | Job No: | |
| Engine Model: | 7L70MC-C | Class: | |
| Inspector: | si wei | Date: | 2020.10.22 |

M/E crank shaft deflection



Before dock (2020.09.13)

| Point \ Cyl.No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | T | +0.02 | -0.02 | +0.09 | +0.08 | +0.14 | +0.28 | -0.26 |
| P | +0.02 | +0.02 | 0 | -0.02 | +0.06 | +0.12 | -0.20 | |
| BP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| BS | 0 | +0.06 | -0.02 | -0.04 | +0.03 | +0.04 | -0.02 | |
| S | 0 | -0.05 | 0 | +0.04 | +0.02 | +0.10 | -0.08 | |

After dock (2020.10.21)

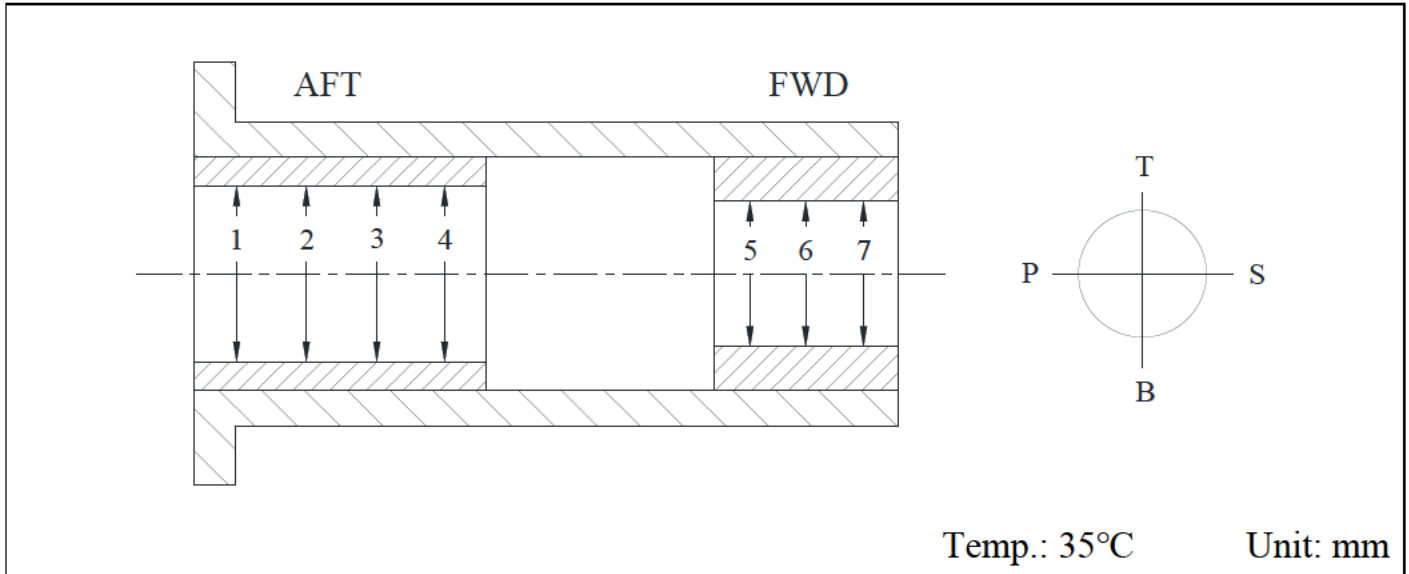
| Point \ Cyl.No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | T | -0.02 | -0.12 | +0.04 | +0.02 | +0.12 | +0.22 | -0.29 |
| P | -0.04 | -0.12 | -0.02 | -0.04 | +0.04 | +0.08 | -0.20 | |
| BP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| BS | 0 | +0.02 | 0 | +0.03 | 0 | +0.02 | +0.04 | |
| S | -0.03 | -0.06 | +0.02 | +0.03 | +0.02 | +0.10 | -0.18 | |

Remark:

RECEIVED BY: _____
Customer's Signature & Chop

| | |
|--|-------------------------------|
| Vessel | Job Number |
| Goods Name Stern tube bearing housing | Class NA |

1. Measurement Record



| | AFT | | | | FWD | | |
|------------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| T/B | 687.02 | 687.04 | 687.05 | 687.12 | 617.97 | 617.98 | 617.99 |
| P/S | 687.01 | 687.06 | 687.08 | 687.09 | 617.97 | 617.98 | 618.01 |

2. Photo Report



Vessel

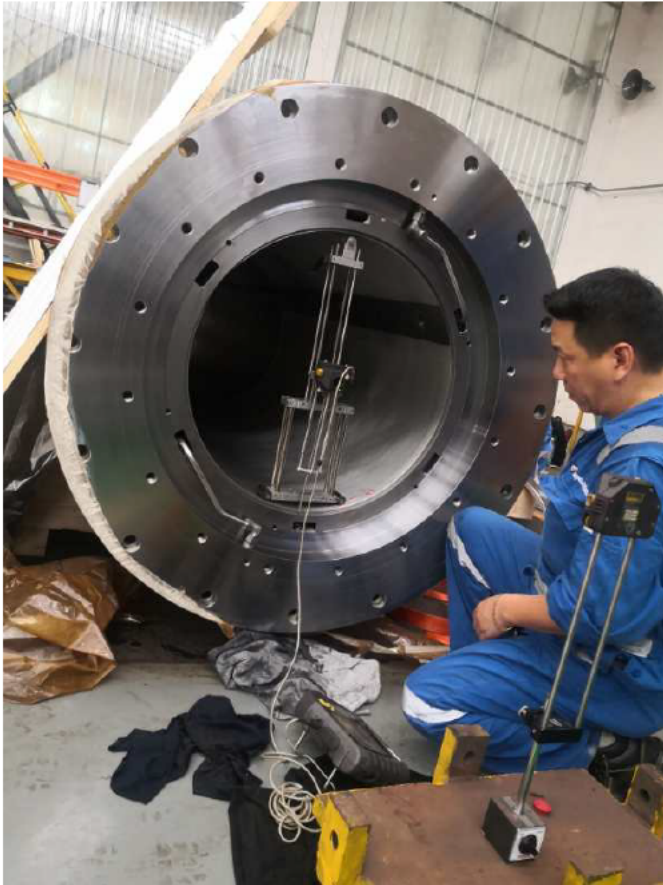
Job Number

Goods Name

Stern tube bearing housing

Class

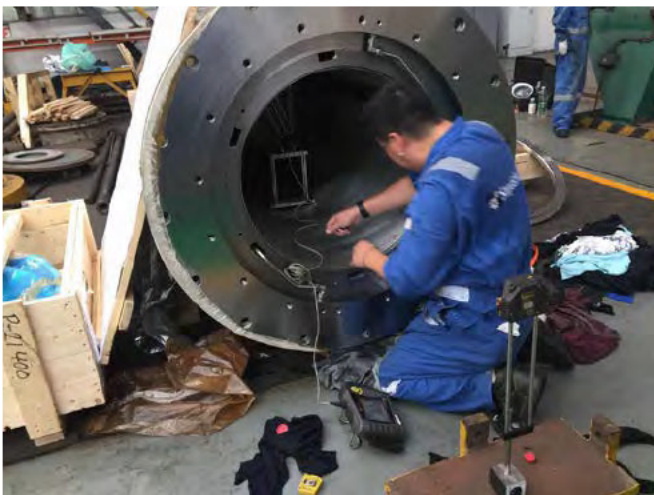
NA



Alignment inspection with laser equipment



Alignment inspection with laser equipment



Alignment inspection with laser equipment



Aft stern tube bearing view

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Tel: +86 21-6118 0981

Fax: +

E-Mail:

| | |
|--|--|
| Vessel | Job Number |
| Goods Name | Class |
| Stern tube bearing housing | NA |
|  <p style="text-align: center;">Fwd stern tube bearing view</p> |  <p style="text-align: center;">Original punch mark view</p> |

3. Conclusions

| | | | |
|--|-------------|-------------|---------------|
| Calibration and inspection stern tube bearing housing ×1 set | | | |
| Inspected by | Reviewed by | Approved by | Approval Date |
| Si Wei | Gun Jun | ZM Yan | 2020-09-04 |

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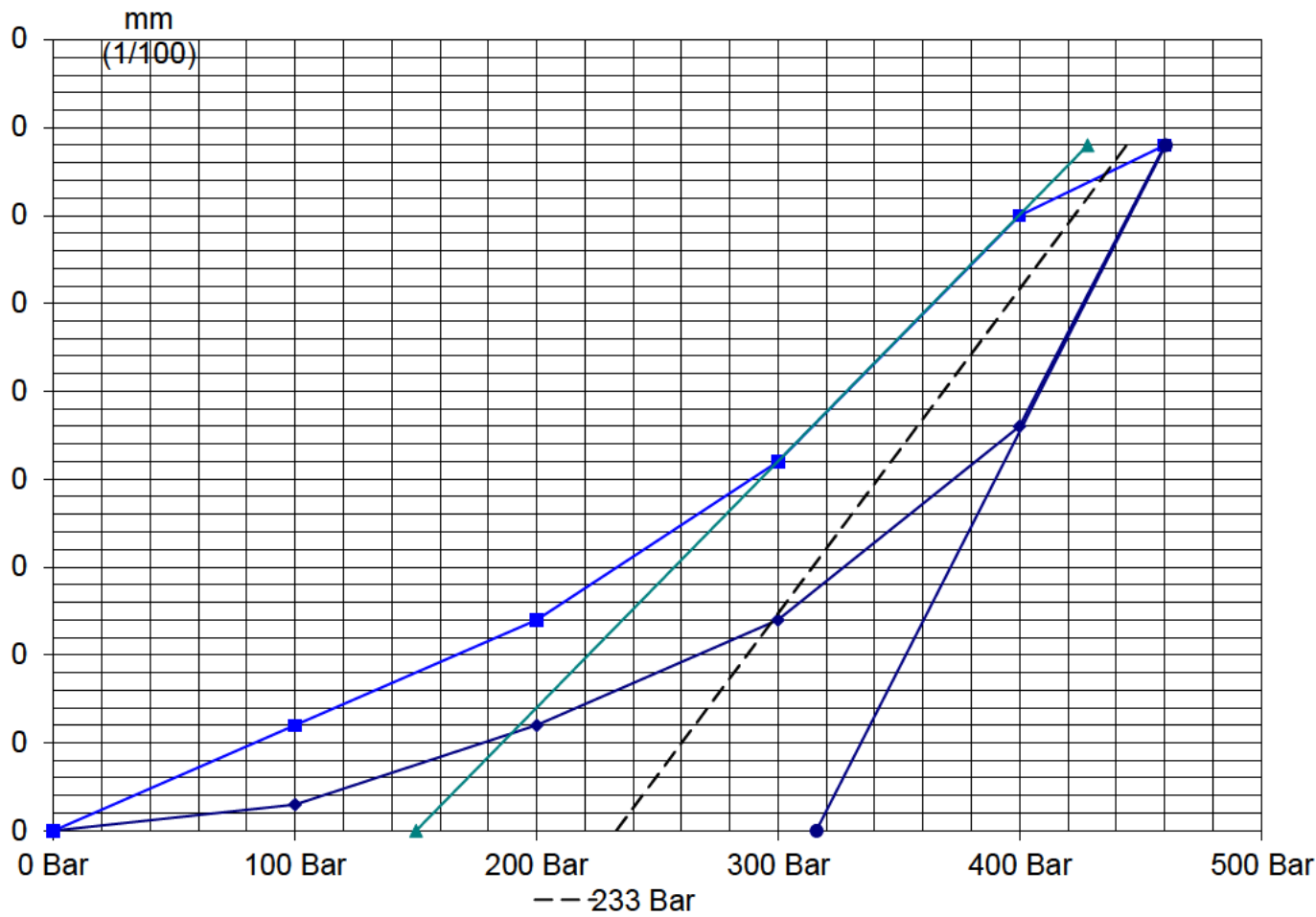
上海市浦东新区航头镇森普工业园区航都路 25 号 1 号厂房 邮编:201316


Tel: +86 21-6118 0981

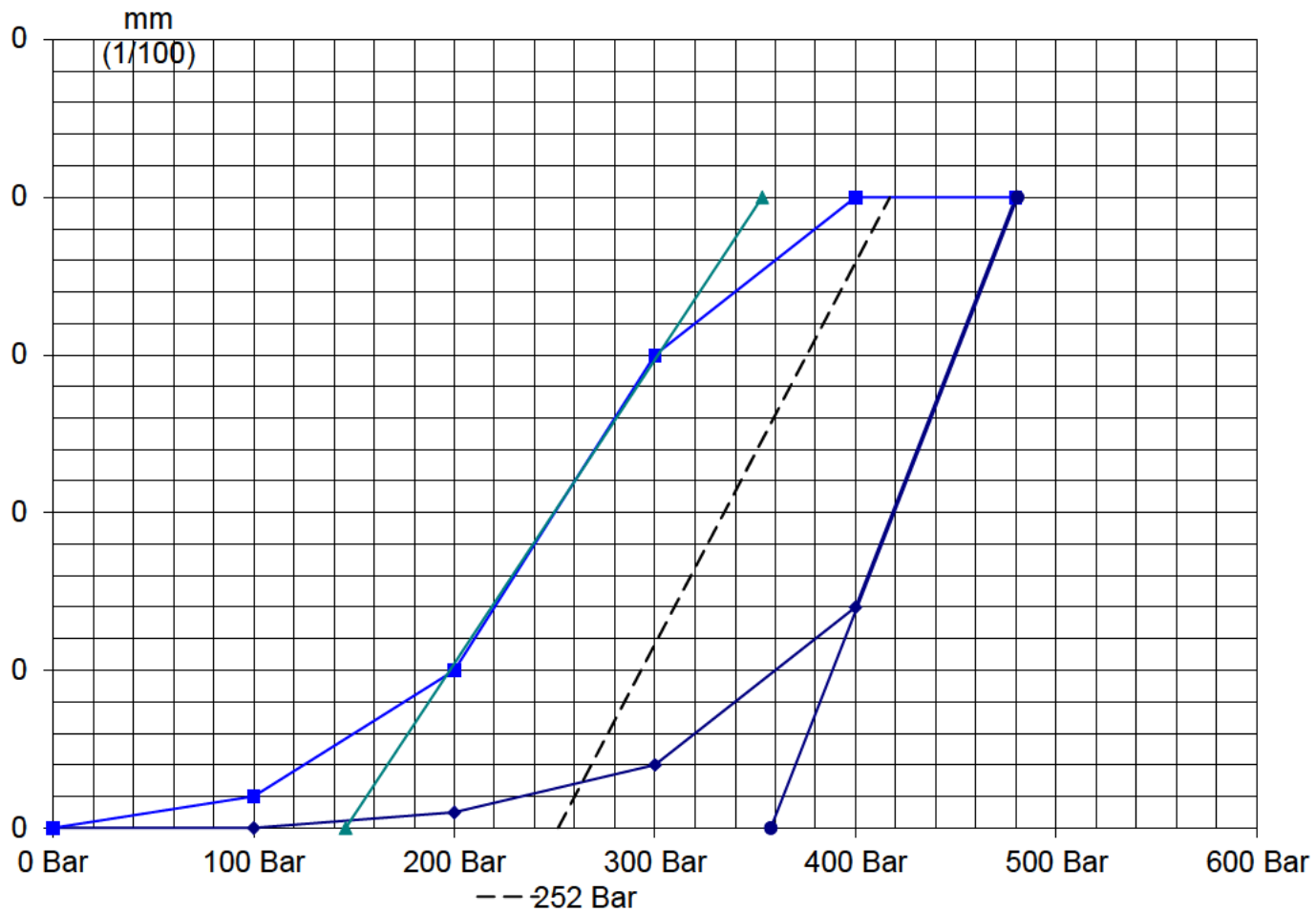
Fax: +


E-Mail:

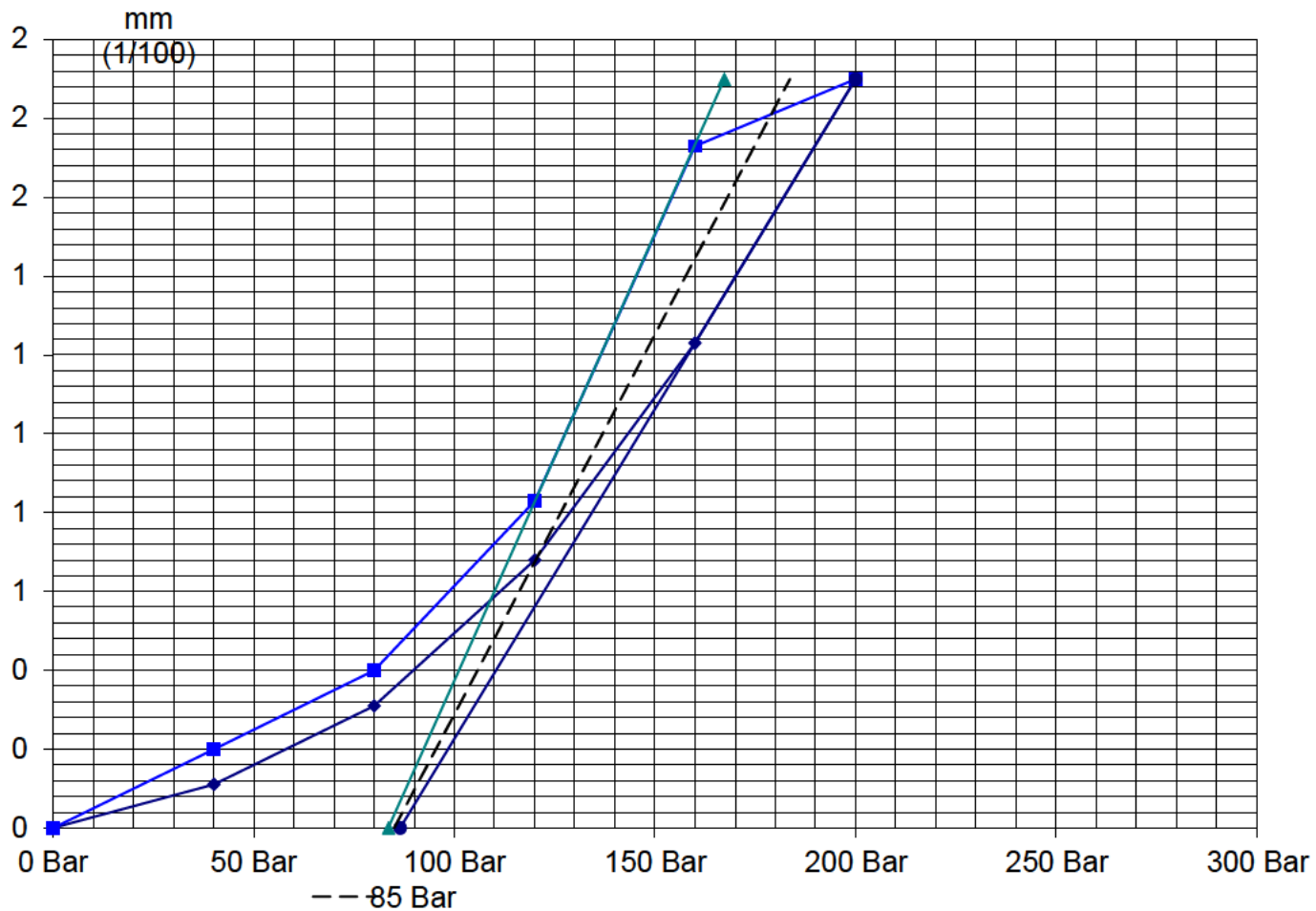
| | | | | | | | |
|--------------------------|------------------------|---|----------------------------|------------|------------|-----|------------|
| Vessel: | M/V MAUNALEI | Bearing: | No.7 unit fwd main bearing | Input data | | | |
| Engine type: | 7L70MC-C | Engine temperature: | | Bar | mm (1/100) | Bar | mm (1/100) |
| Lloyd's No.: | | Foremost draft: | 5.0 m | 0 | 0.00 | 0 | 0.00 |
| Plant Spec. No.: | | Aftmost draft: | 6.5 m | 100 | 0.02 | 100 | 0.06 |
| Date of measurement: | 2020.10.20 | Comments: | | 200 | 0.06 | 200 | 0.12 |
| Location: | NANTONG SHIPYARD |  | | 300 | 0.12 | 300 | 0.21 |
| Corr. factor R=CxRj, C:= | 1.000 | | | 400 | 0.23 | 400 | 0.35 |
| Jack area: | 126.70 cm ² | | | 460 | 0.39 | 460 | 0.39 |
| Calculated bearing load: | 30.1 tonne | | ≈ | 295.2 kN | | | |




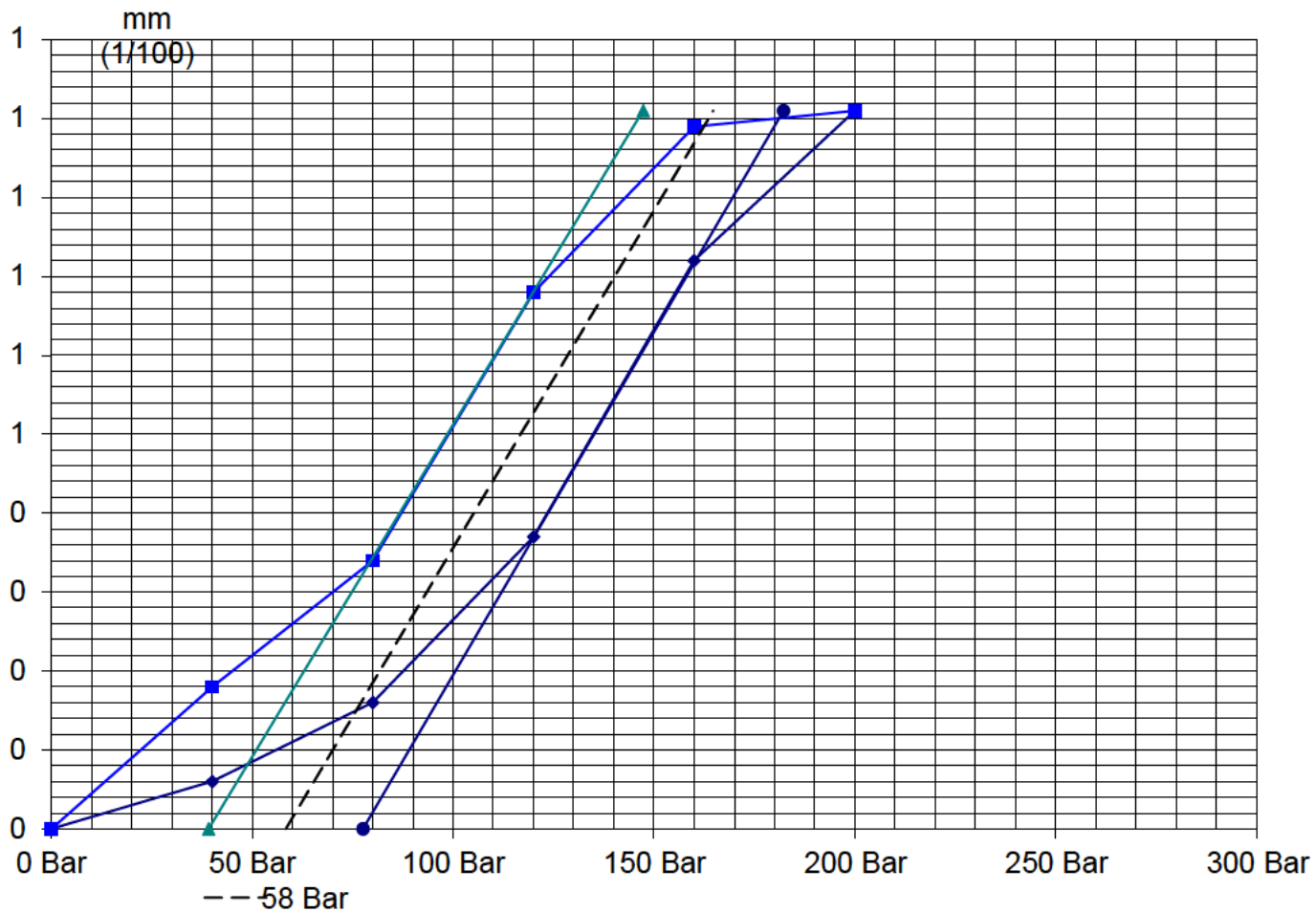
| | | | | | | | |
|--------------------------|------------------------|---------------------|---|-------------------|------------|-----|------------|
| Vessel: | M/V MAUNALEI | Bearing: | No.7 unit aft main bearing | <u>Input data</u> | | | |
| Engine type: | 7L70MC-C | Engine temperature: | | Bar | mm (1/100) | Bar | mm (1/100) |
| Lloyd's No.: | | Foremost draft: | 5.0 m | 0 | 0.00 | 0 | 0.00 |
| Plant Spec. No.: | | Aftmost draft: | 6.5 m | 100 | 0.00 | 100 | 0.01 |
| Date of measurement: | 2020.10.20 | Comments: |  | 200 | 0.01 | 200 | 0.05 |
| Location: | NANTONG SHIPYARD | | | 300 | 0.02 | 300 | 0.15 |
| Corr. factor R=CxRj, C:= | 1.000 | | | 400 | 0.07 | 400 | 0.20 |
| Jack area: | 126.70 cm ² | | | 480 | 0.20 | 480 | 0.20 |
| Calculated bearing load: | 32.5 tonne | ≈ | 319.0 kN | | | | |




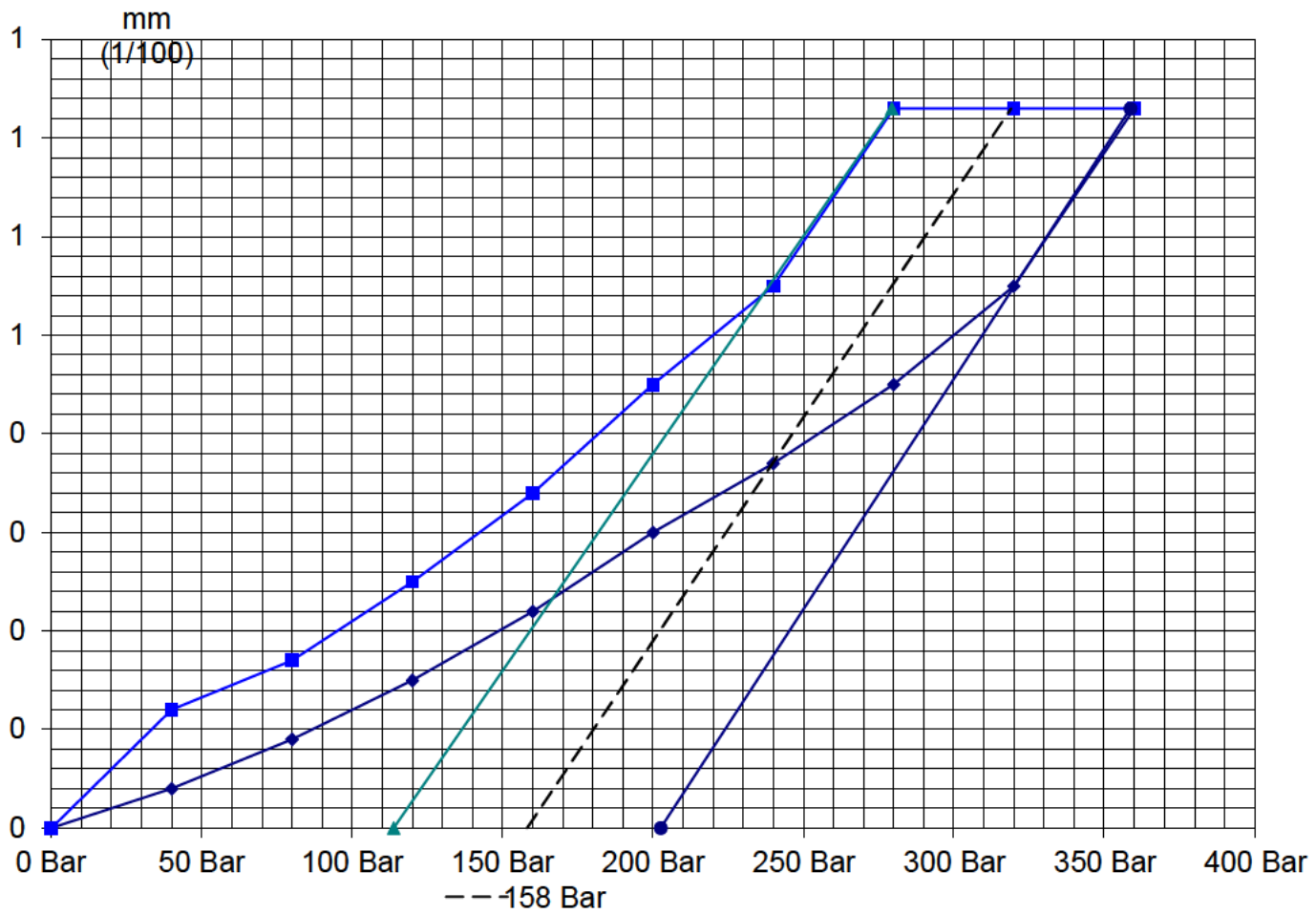
| | | | | | | | |
|--------------------------|------------------------|---------------------|---|-------------------|------------|-----|------------|
| Vessel: | M/V MAUNALEI | Bearing: | I/M BEARING | <u>Input data</u> | | | |
| Engine type: | 7L70MC-C | Engine temperature: | | Bar | mm (1/100) | Bar | mm (1/100) |
| Lloyd's No.: | | Foremost draft: | 5.0 m | 0 | 0.00 | 0 | 0.00 |
| Plant Spec. No.: | | Aftmost draft: | 6.5 m | 40 | 0.11 | 40 | 0.20 |
| Date of measurement: | 2020.10.20 | Comments: |  | 80 | 0.31 | 80 | 0.40 |
| Location: | NANTONG SHIPYARD | | | 120 | 0.68 | 120 | 0.83 |
| Corr. factor R=CxRj, C:= | 1.000 | | | 160 | 1.23 | 160 | 1.73 |
| Jack area: | 126.70 cm ² | | | 200 | 1.90 | 200 | 1.90 |
| Calculated bearing load: | 11.0 tonne | ≈ | | 107.7 kN | 240 | | 240 |



| | | | | | | | |
|--------------------------|------------------------|---------------------|---|-------------------|------------|-----|------------|
| Vessel: | M/V MAUNALEI | Bearing: | FWD BEARING | <u>Input data</u> | | | |
| Engine type: | 7L70MC-C | Engine temperature: | | Bar | mm (1/100) | Bar | mm (1/100) |
| Lloyd's No.: | | Foremost draft: | 5.0 m | 0 | 0.00 | 0 | 0.00 |
| Plant Spec. No.: | | Aftmost draft: | 6.5 m | 40 | 0.06 | 40 | 0.18 |
| Date of measurement: | 2020.10.20 | Comments: |  | 80 | 0.16 | 80 | 0.34 |
| Location: | NANTONG SHIPYARD | | | 120 | 0.37 | 120 | 0.68 |
| Corr. factor R=CxRj, C:= | 1.040 | | | 160 | 0.72 | 160 | 0.89 |
| Jack area: | 126.70 cm ² | | | 200 | 0.91 | 200 | 0.91 |
| Calculated bearing load: | 7.8 tonne | ≈ | | 76.9 kN | 240 | | 240 |



| | | | | | | | |
|--------------------------|------------------|---------------------|---|-------------------|------------|-----|------------|
| Vessel: | M/V MAUNALEI | Bearing: | aftmost | <u>Input data</u> | | | |
| Engine type: | 7L70MC-C | Engine temperature: | | Bar | mm (1/100) | Bar | mm (1/100) |
| Lloyd's No.: | | Foremost draft: | 5.0 m | 0 | 0.00 | 0 | 0.00 |
| Plant Spec. No.: | | Aftmost draft: | 6.5 m | 40 | 0.04 | 40 | 0.12 |
| Date of measurement: | 2020.10.20 | Comments: |  | 80 | 0.09 | 80 | 0.17 |
| Location: | NANTONG SHIPYARD | | | 120 | 0.15 | 120 | 0.25 |
| Corr. factor R=CxRj, C:= | 1.000 | | | 160 | 0.22 | 160 | 0.34 |
| Jack area: | 126.70 cm² | | | 200 | 0.30 | 200 | 0.45 |
| Calculated bearing load: | | 20.4 tonne | ≈ 200.4 kN | 240 | 0.37 | 240 | 0.55 |
| | | | | 280 | 0.45 | 280 | 0.73 |
| | | | | 320 | 0.55 | 320 | 0.73 |
| | | | | 360 | 0.73 | 360 | 0.73 |



| | | | |
|-------------|--|---------------|------------|
| Vessel | M.V MAUNALEI | Project No. | |
| Location | NANTONG COSCO SHIPYARD | Start Date | 2020-08-31 |
| Engineer(s) | MR.CHEN HONG | Technician(s) | |
| Job Subject | SUPERVISION BAODIN WORKSHOP FOR BORING COUPLING HOLE. | | |

| Date | Travel /Standby /Working | Start time | Stop time | Description of work | Normal working time | Overtime A | Overtime B | On/Off shore |
|----------|--------------------------|------------|-----------|---|---------------------|------------|------------|--------------|
| 31/08/20 | T | 0830 | 1200 | TRAVEL FROM SHANGHAI TO NANTONG | | | | |
| | W | 1300 | 1700 | PERPARE BOARDING PASS AND LIFT TOOLS ON BOARD . | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 01/09/20 | T | 0800 | 1130 | TRAVEL TO HANGZHOU BAODING WORKSHOP | | | | |
| | W | 1130 | 1700 | WORK IN BAODING WORKSHOP | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 02/09/20 | T | 0730 | 0800 | TRAVEL TO BAODING WORKSHOP | | | | |
| | W | 0800 | 1700 | WORK IN BAODING WORKSHOP | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |

| | | | | | | | | |
|----------|---|------|------|----------------------------|--|--|--|--|
| 03/09/20 | T | 0730 | 0800 | TRAVEL TO BAODING WORKSHOP | | | | |
| | W | 0800 | 1700 | WORK IN BAODING WORKSHOP | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 04/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1400 | WORK IN BAODING WORKSHOP | | | | |
| | T | 1400 | 1730 | TRAVEL TO SHANGHAI | | | | |

Remarks: **Normal working time** from 0800 to 1700 Monday-Friday / **OT A** from 1700 to 2400 Monday-Friday / **OT B** from 000 to 0800 from Monday-Friday and 0800 to 0800(next day)
 Saturday, Sunday & Public Holiday

| | | | |
|------------------------------|--|-----------------------------|--|
| Service Engineer & Signature | | Customer & Signature& Stamp | |
| Date | | Date | |

| | | | |
|-------------|------------------------|---------------|--|
| Vessel | M.V MAUNALEI | Project No. | |
| Location | NANTONG COSCO SHIPYARD | Start Date | 2020-09-20 |
| Engineer(s) | Mr. SI WEI | Technician(s) | Mr. CHEN GAO CHUN;ZHANG RONG BAO;WEI YUAN LI;WU YING SHENG |
| Job Subject | MLE 711 CPP PIPING | | |

| Date | Travel /Stand by /Working | Start time | Stop time | Description of work | Normal working time | Overtime A | Overtime B | On/Of shore |
|----------|---------------------------|------------|-----------|---------------------|---------------------|------------|------------|-------------|
| 20/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |
| 21/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |
| 22/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1730 | WORKING ON BOARD | | | | |
| | T | 1730 | 1800 | TRAVEL TO HOTEL | | | | |
| 23/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |

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|----------|---|------|------|--------------------|--|--|--|--|
| 24/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 25/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |
| 26/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 27/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 28/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 29/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 30/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1800 | 1830 | TRAVEL TO HOTEL | | | | |

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|----------|---|------|------|--------------------|--|--|--|--|
| 01/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1800 | 1830 | TRAVEL TO HOTEL | | | | |
| 02/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2000 | WORKING ON BOARD | | | | |
| | T | 2000 | 2030 | TRAVEL TO HOTEL | | | | |
| 03/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1830 | WORKING ON BOARD | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |
| 04/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1930 | WORKING ON BOARD | | | | |
| | T | 1930 | 2000 | TRAVEL TO HOTEL | | | | |
| 05/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |
| 06/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |
| 07/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1830 | WORKING ON BOARD | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |

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|----------|---|------|------|--------------------|--|--|--|--|
| 08/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2100 | WORKING ON BOARD | | | | |
| | T | 2100 | 2130 | TRAVEL TO HOTEL | | | | |
| 09/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2400 | WORKING ON BOARD | | | | |
| | T | 0000 | 0030 | TRAVEL TO HOTEL | | | | |
| 10/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |
| 11/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1800 | 1830 | TRAVEL TO HOTEL | | | | |
| 12/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |
| 13/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 14/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |

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|----------|---|------|------|-------------------------|--|--|--|--|
| 15/10/20 | T | 0830 | 1130 | Return back to shanghai | | | | |
|----------|---|------|------|-------------------------|--|--|--|--|

Remarks: **Normal working time** from 0800 to 1700 Monday-Friday / **OT A** from 1700 to 2400 Monday-Friday / **OT B** from 000 to 0800 from Monday-Friday and 0800 to 0800(next day)

Saturday, Sunday & Public Holiday

| | | | |
|------------------------------|--|-----------------------------|--|
| Service Engineer & Signature | | Customer & Signature& Stamp | |
| Date | | Date | |

| | | | |
|-------------|------------------------|---------------|------------|
| Vessel | M.V MAUNALEI | Project No. | |
| Location | NANTONG COSCO SHIPYARD | Start Date | 2020-09-07 |
| Engineer(s) | Mr. SI WEI | Technician(s) | |
| Job Subject | MEETING ON BOARD | | |

| Date | Travel /Stand by /Working | Start time | Stop time | Description of work | Normal working time | Overtime A | Overtime B | On/Off shore |
|----------|---------------------------|------------|-----------|---------------------------------|---------------------|------------|------------|--------------|
| 07/09/20 | T | 1400 | 1600 | TRAVEL FROM SHANGHAI TO NANTONG | | | | |
| 08/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1200 | MEETING ON BOARD | | | | |
| | T | 1200 | 1500 | TRAVEL BACK TO SHANGHAI | | | | |
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Remarks: **Normal working time** from 0800 to 1700 Monday-Friday / **OT A** from 1700 to 2400 Monday-Friday / **OT B** from 000 to 0800 from Monday-Friday and 0800 to 0800(next day)
 Saturday, Sunday & Public Holiday

| | | | |
|------------------------------|--|-----------------------------|--|
| Service Engineer & Signature | | Customer & Signature& Stamp | |
| Date | | Date | |

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|-------------|------------------------|---------------|---|
| Vessel | M.V MAUNALEI | Project No. | |
| Location | NANTONG COSCO SHIPYARD | Start Date | 2020-09-07 |
| Engineer(s) | Mr. SI WEI | Technician(s) | Mr. CHEN HONG;LUO CHANG LIN;WANG LI FU;ZHANG CAI WU |
| Job Subject | MLE 711 CPP | | |

| Date | Travel /Stand by /Working | Start time | Stop time | Description of work | Normal working time | Overtime A | Overtime B | On/Off shore |
|----------|---------------------------|------------|-----------|---------------------------------|---------------------|------------|------------|--------------|
| 12/09/20 | T | 1500 | 1800 | TRAVEL FROM SHANGHAI TO NANTONG | | | | |
| 13/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 14/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 15/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 16/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |

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|----------|---|------|------|--------------------|--|--|--|--|
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 17/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 18/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 19/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1930 | WORKING ON BOARD | | | | |
| | T | 1930 | 2000 | TRAVEL TO HOTEL | | | | |
| 20/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |
| 21/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |
| 22/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1730 | WORKING ON BOARD | | | | |
| | T | 1730 | 1800 | TRAVEL TO HOTEL | | | | |
| 23/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |

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|----------|---|------|------|--------------------|--|--|--|--|
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 24/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 25/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |
| 26/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2400 | WORKING ON BOARD | | | | |
| | W | 0000 | 0300 | WORKING ON BOARD | | | | |
| | T | 0300 | 0330 | TRAVEL TO HOTEL | | | | |
| 27/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 28/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2400 | WORKING ON BOARD | | | | |
| | W | 0000 | 0200 | WORKING ON BOARD | | | | |
| | T | 0200 | 0230 | TRAVEL TO HOTEL | | | | |
| 29/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |

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|----------|----------|-------------|-------------|--|--|--|--|--|
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 30/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1800 | 1830 | TRAVEL TO HOTEL | | | | |
| 01/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1800 | 1830 | TRAVEL TO HOTEL | | | | |
| 02/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2000 | WORKING ON BOARD | | | | |
| | T | 2000 | 2030 | TRAVEL TO HOTEL | | | | |
| 03/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1830 | WORKING ON BOARD | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |
| 04/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1930 | WORKING ON BOARD | | | | |
| | T | 1930 | 2000 | TRAVEL TO HOTEL | | | | |
| | T | 0900 | 1200 | MR.ZHANG CAI WU RETURN BACK TO SHANGHAI | | | | |
| 05/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |

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|----------|---|------|------|--------------------|--|--|--|--|
| 06/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |
| 07/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1830 | WORKING ON BOARD | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |
| 08/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2100 | WORKING ON BOARD | | | | |
| | T | 2100 | 2130 | TRAVEL TO HOTEL | | | | |
| 09/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2400 | WORKING ON BOARD | | | | |
| | T | 0000 | 0030 | TRAVEL TO HOTEL | | | | |
| 10/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |
| 11/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1800 | 1830 | TRAVEL TO HOTEL | | | | |
| 12/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1900 | WORKING ON BOARD | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |

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|----------|---|------|------|---------------------------------|--|--|--|--|
| 13/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 14/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 15/10/20 | T | 0830 | 1130 | RETURN BACK TO SHANGHAI | | | | |
| 19/10/20 | T | 1300 | 1500 | TRAVEL FROM SHANGHAI TO NANTONG | | | | |
| 20/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2300 | WORKING ON BOARD | | | | |
| | T | 2300 | 2330 | TRAVEL TO HOTEL | | | | |
| 21/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORKING ON BOARD | | | | |
| | T | 1800 | 1830 | TRAVEL TO HOTEL | | | | |
| 22/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 23/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 2200 | WORKING ON BOARD | | | | |
| | T | 2200 | 2230 | TRAVEL TO HOTEL | | | | |

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|----------|---|------|------|---|--|--|--|--|
| 24/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1000 | WORKING ON BOARD FOR TOOLS TRANSPORTATION | | | | |
| | T | 1000 | 1330 | MR.CHEN HONG;WANG LI FU;LUO CHANG LIN RETURN BACK TO SHANGHAI | | | | |
| 25/10/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORKING ON BOARD FOR SOLVE PROBLEM OF CHOCK FAST LEAKAGE. | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 26/10/20 | T | 0800 | 1100 | TRAVEL BACK TO SHANGHAI | | | | |
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Remarks: **Normal working time** from 0800 to 1700 Monday-Friday / **OT A** from 1700 to 2400 Monday-Friday / **OT B** from 000 to 0800 from Monday-Friday and 0800 to 0800(next day)
 Saturday, Sunday & Public Holiday

| | | | |
|------------------------------|--|-----------------------------|--|
| Service Engineer & Signature | | Customer & Signature& Stamp | |
| Date | | Date | |

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|-------------|--|---------------|---|
| Vessel | M.V MAUNALEI | Project No. | |
| Location | NANTONG COSCO SHIPYARD | Start Date | 2020-08-31 |
| Engineer(s) | MR.SI WEI/GU JUN | Technician(s) | MR.LI SHUN MING;LUO CHANG LIN;WANG LI FU;GAN WEN LIN |
| Job Subject | REMOVER CONNECTING BOLTS FOR M/E SHANFT | | |

| Date | Travel /Standby /Working | Start time | Stop time | Description of work | Normal working time | Overtime A | Overtime B | On/Off shore |
|----------|--------------------------|------------|-----------|---|---------------------|------------|------------|--------------|
| 31/08/20 | T | 0830 | 1200 | TRAVEL FROM SHANGHAI TO NANTONG | | | | |
| | W | 1300 | 1700 | PERPARE BOARDING PASS AND LIFT TOOLS ON BOARD . | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 01/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1830 | REMOVER TAIL SHAFT AND INTERMEDIATE SHAFT BOLTS | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |
| 02/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1930 | REMOVER FLY WHEEL AND INTERMEDIATE SHAFT BOLTS | | | | |

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|----------|---|------|------|---|--|--|--|--|
| | T | 1930 | 2000 | TRAVEL TO HOTEL | | | | |
| 03/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | CLEANING WORKING AREA AND TRANSPORTATION ALL BOLTS TO WOKSHOP | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 04/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | INSPECTION OF MAN NEW STERN TUBE AT SHIPYARD WORKSHOP | | | | |
| | T | 1700 | 1730 | TRAVEL TO HOTEL | | | | |
| 05/09/20 | T | 0730 | 1000 | TRAVEL TO SHANGHAI | | | | |

Remarks: **Normal working time** from 0800 to 1700 Monday-Friday / **OT A** from 1700 to 2400 Monday-Friday / **OT B** from 000 to 0800 from Monday-Friday and 0800 to 0800(next day)

Saturday, Sunday & Public Holiday

| | | | |
|------------------------------|--|-----------------------------|--|
| Service Engineer & Signature | | Customer & Signature& Stamp | |
| Date | | Date | |

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|-------------|--|---------------|------------|
| Vessel | M.V MAUNALEI | Project No. | |
| Location | NANTONG COSCO SHIPYARD | Start Date | 2020-09-20 |
| Engineer(s) | Mr. Wang Qian Song | Technician(s) | |
| Job Subject | In-situ boring of fly wheel coupling hole | | |

| Date | Travel /Stand by /Working | Start time | Stop time | Description of work | Normal working time | Overtime A | Overtime B | On/Of shore |
|----------|---------------------------|------------|-----------|--|---------------------|------------|------------|-------------|
| 20/09/20 | T | 0830 | 1200 | TRAVEL FROM SHANGHAI TO NANTONG | | | | |
| | W | 1300 | 1900 | PERPARE BOARDING PASS AND LIFT TOOLS ON BOARD . THEN START IN-SITU BORING OF COUPLING HOLE | | | | |
| | T | 1900 | 1930 | TRAVEL TO HOTEL | | | | |
| 21/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1830 | WORK ON BOARD | | | | |
| | T | 1830 | 1900 | TRAVEL TO HOTEL | | | | |
| 22/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1800 | WORK ON BOARD | | | | |
| | T | 1800 | 1830 | TRAVEL TO HOTEL | | | | |

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|----------|---|------|------|-------------------------|--|--|--|--|
| 23/09/20 | T | 0730 | 0800 | TRAVEL TO SHIPYARD | | | | |
| | W | 0800 | 1700 | WORK ON BOARD | | | | |
| | T | 1700 | 1900 | TRAVEL BACK TO SHANGHAI | | | | |
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Remarks: **Normal working time** from 0800 to 1700 Monday-Friday / **OT A** from 1700 to 2400 Monday-Friday / **OT B** from 000 to 0800 from Monday-Friday and 0800 to 0800(next day)

Saturday, Sunday & Public Holiday

| | | | |
|------------------------------|--|-----------------------------|--|
| Service Engineer & Signature | | Customer & Signature& Stamp | |
| Date | | Date | |

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| Sinpo Project No.: | Vessel: M/V MAUNALEI REMOVER M/E COUPLING BOLTS | Location: NANTONG COSCO SHIPYARD |
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| DATE | DESCRIPTIONS OF SERVICE WORK |
|------------|--|
| 31/08/2020 | TRAVEL FROM SHANGHAI TO NANTONG AND PERPARE SHIPYARD BOARDING PASS AND TO VESSEL.LIFT TOOLS ON BOARD |
| 01/09/2020 | ON BOARD FOR DISMANTLE M/E TAIL SHAFT AND INTERMEDITA SHAFT BOLTS |
| 02/09/2020 | ON BOARD FOR DISMANTLE M/E FLY WHEEL AND INTERMEDITA SHAFT BOLTS |
| 03/09/2020 | CLEANING WORKING AREA AND TRANSPORTATION ALL BOLTS TO WOKSHOP |
| 04/09/2020 | INSPECTION AND LASER ALIGNMENT CHECK OF MAN NEW STERN TUBE AT SHIPYARD WORKSHOP |
| 05/09/2020 | TRAVEL BACK TO SHANGHAI |
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This is to certify that the above work has been ordered by the undersigned and has been carried out

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| SINPO SOLUTIONS SUPV. | SHIPS REPRESENTATIVE | CUSTOMERS AGENT / REPRESENTATIVE |
| NAME : SI WEI | NAME | NAME |
| SIGNATURE | SIGNATURE & SHIP STAMP | SIGNATURE |

Shanghai Sinpo Marine Co.,Ltd

Block No.1, No.25 Hangdu Road, Sinpo Industrial Zone

Hangtoun Town, Shanghai, China, Post code 201316

Tel: [86-21-6118-0981](tel:86-21-6118-0981) Fax: [REDACTED] Email: [REDACTED]

| | | |
|--------------------|-------------------------------------|-------------------------------------|
| Sinpo Project No.: | Vessel: M/V MAUNALEI MEL 711 CPP | Location: NANTONG COSCO SHIPYARD |
|--------------------|-------------------------------------|-------------------------------------|

| DATE | DESCRIPTIONS OF SERVICE WORK |
|------------|--|
| 12/09/2020 | TRAVEL FROM SHANGHAI TO NANTONG |
| 13/09/2020 | ON BOARD FOR DISMANTLE M/E DIFFLECTION BEFORE AND AFTER DOCKING |
| 14/09/2020 | ON BOARD FOR DISMANTLE M/E FLY WHEEL AND INTERMEDITA SHAFT TEMPORARY BOLTS |
| 15/09/2020 | AT SHIPYARD WORKSHOP FOR COUNT THE NUMBER OF SPART PARTS |
| 16/09/2020 | HPU DRAIN OIL TANK POSITIONING, |
| 17/09/2020 | LIFTING OUT OF I/M SHAFT AND DISMANTLE HYDRAULICS COUPLING THEN LIFTING OF TAIL SHAFT |
| 18/09/2020 | CHECK ALIGNMENT OF NEW I/M SHAFT WITH FLY WHEEL COUPLING. |
| 20/09/2020 | STARTING IN-SITU BORING OF FLY WHEEL COUPLING HOLE.TOTAL 10PCS AND GRAVITY OIL SYSTEM PIPING MODIFY. |
| 21/09/2020 | IN-SITU BORING OF FLY WHEEL COUPLING HOLE AND GRAVITY OIL SYSTEM PIPING MODIFY. |
| 22/09/2020 | IN-SITU BORING OF FLY WHEEL COUPLING HOLE AND GRAVITY OIL SYSTEM PIPING MODIFY. |
| 23/09/2020 | IN-SITU BORING OF FLY WHEEL COUPLING HOLE FINISHED AND GRAVITY OIL SYSTEM PIPING MODIFY. |
| 24/09/2020 | REMOVED OLD STERN TUBE COMPLETE AND GRAVITY OIL SYSTEM PIPING MODIFY. |
| 25/09/2020 | INSTALLTION OF NEW STERN TUBE, GRAVITY OIL SYSTEM PIPING MODIFY. |

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|--------------------|-------------------------------------|-------------------------------------|
| Sinpo Project No.: | Vessel: M/V MAUNALEI MEL 711 CPP | Location: NANTONG COSCO SHIPYARD |
|--------------------|-------------------------------------|-------------------------------------|

| | |
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| 26/09/2020 | ACCORDING TO MAN REQUEST FOR ADJUST ALIGNMENT OF STERN TUBE AND THEN LASER ALIGNMENT AGAIN AND SENT REPORT TO MAN DENMARK AND GET AFFIRMATION. THEN STARTING CHOCK FAST WORK. GRAVITY OIL SYSTEM PIPING MODIFY. |
| 27/09/2020 | GRAVITY OIL SYSTEM PIPING MODIFY. |
| 28.09.2020 | INSPECTION OF CHOCK FAST HARDNESS AND UPON TO OWNER REQUEST AT 2200PM TO DO LASER ALIGNMENG AGAIN. GRAVITY OIL SYSTEM PIPING MODIFY. |
| 29/09/2020 | STERN TUBE FWD ADJUST RING WELDING, GRAVITY OIL SYSTEM PIPING MODIFY. |
| 30/09/2020 | CLEANING STERN TUBE HOUSEING/CHECK AND AGREE BY SHIP'S CHIEF ENGINEER. INSTALLTION OF NEW PROPELLER SHAFT AND NEW AFTER SEAL.TRANSPORTATION OF NEW OD SHAFT TO ENGIN ROOM. GRAVITY OIL SYSTEM PIPING MODIFY. |
| 01/10/2020 | INSTALL OF FWD SEAL AND. GRAVITY OIL SYSTEM PIPING MODIFY. |
| 02/10/2020 | TIGHTEN HYDRAULICS COUPLING TO STANDARD POSITION.CHECK AND AGREE BY SKF/MAN ENGINEER. GRAVITY OIL SYSTEM PIPING MODIFY. |
| 03/10/2020 | INSTALL OF OD SHAFT WITH HYDRAULICS COUPLING BOLTS, FLY WHEEL WITH I.M SHAFT COUPLING BOLTS BY DRY ICE. GRAVITY OIL SYSTEM PIPING MODIFY. |
| 04/10/2020 | INSTALL OF OD SHAFT WITH I/M SHAFT COUPLING BOLTS. GRAVITY OIL SYSTEM PIPING MODIFY. |
| 05/10/2020 | INSTALLATION OF PROPELLER BLADES 5PCS. GRAVITY OIL SYSTEM PIPING MODIFY. |
| 06/10/2020 | TIGHTEN COUPLING OF FLY WHEEL/OD SHAFT FWD & AFT COUPLING BOLTS BY HYDRAULIC WRENCH. GRAVITY OIL SYSTEM PIPING MODIFY. |

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| Sinpo Project No.: | Vessel: M/V MAUNALEI MEL 711 CPP | Location: NANTONG COSCO SHIPYARD |
|--------------------|-------------------------------------|-------------------------------------|

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| 07/10/2020 | ASSEMBLING AFTER PICKLING GRAVITY SYSTEM PIPE. |
| 08/10/2020 | PRESSER TEST OF GRAVITY SYSTEM PIPE. |
| 09/10/2020 | ADD NEW LUBRICATING OIL FOR HUB SYSTEM AND FLUSHING ABOUT 6 HOURS. |
| 10/10/2020 | ADD NEW LUBRICATING OIL FOR STERN TUBE SYSTEM AND FLUSHING ABOUT 6 HOURS. CHECK FITTLE AND AGREE BY MR.K.K THEN ADD NEW OILFOR GRAVITY SYSTEM |
| 11/10/2020 | TIGHTEN COUPLING BOLTS AGAIN BY DNV.GL SURVEY. |
| 12/10/2020 | PITCH TEST |
| 13/10/2020 | UPON TO CHIEF ENGINEER REQUEST FOR CHANGER GRAVITY TANK FLANGE. UNDOCK |
| 14/10/20 | UPON TO DNV GL SURVEY REQUEST TIGHTEN OD SHAFT FWD & AFT COUPLING BOLTS.JACK UP TEST FOR REFERENCE |
| 15/10/20 | RETURN BACK TO SHANGHAI |
| 19/10/20 | TRAVEL FROM SHANGHAI TO NANTONG |
| 20/10/20 | JACK UP TEST AND CHOCKFAST |
| 21/10/20 | INSTALL I/M SHAFT BEARING PARTS AND CHECK M/E DEFLECTION |
| 22/10/20 | INSPECTION OF M/E INSIDE CONDITION AND DIFLECTION REPORT TO OMNER |
| 23/10/20 | SEA TIRAL |
| 24/10/20 | TOOLS SENT BACK TO SHANGHAI AND MR: CHEN HONG;WANG LI FU;LUO CHANG LIN RETURN BACK TO SHANGHAI |

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硬度报告表

NO.H 2016000849

SERVICE REPORT — HARDNESS TEST REPORT

| | | | |
|------------------------|---|--|---|
| Prepared by | Jiang shan wei | | |
| Resin Chock Material | Chockfast® Orange <input checked="" type="checkbox"/> | Epocast® 36 <input type="checkbox"/> | |
| Installation Date | 27.09.2020. | | |
| Identity Card No. | 114. | | |
| Hull No. | | | |
| Vessel | M/V. MATSON MAUNALEI | | |
| Shipyard | Nan Teng CosCo. | | |
| Engine Type | Stern Tube | | |
| Classification Society | DNV-GL | | |
| Batch No. of resin | 9101711 | | |
| Batch No. of hardener | 9101510. | | |
| Chock thickness | (mm) | 30~45 | |
| Ambient temperature | (°C) | 20 | |
| Foundation temperature | (°C) | 23 | |
| Exotherm temperature | (°C) | | |
| Finish of pouring | Date / time | Day: 27 / Month: 09 / Year: 2020 / Time: 14:05 | |
| Using of heaters | Yes / no | Yes: <input type="checkbox"/> | No: <input checked="" type="checkbox"/> |

1. BARCOL HARDNESS TEST (PORT SIDE)

| Chock No. | | | | | | | |
|-----------|----|--------|----|--------|--|--------|--|
| No.01: | 55 | No.02: | 54 | No.03: | | No.04: | |
| No.05: | | No.06: | | No.07: | | No.08: | |

PORT SIDE 1 --- n
STB.-SIDE 1 --- n

2. BARCOL HARDNESS TEST (STB.-SIDE)

| Chock No. | | | | | | | |
|-----------|--|--------|--|--------|--|--------|--|
| No.01: | | No.02: | | No.03: | | No.04: | |
| No.05: | | No.06: | | No.07: | | No.08: | |

Minimum 35 / 40 Approved by DNV-GL.
Test result is accepted by

Signature: [Redacted] [Redacted] [Redacted]
Date: 2020-09-28 28 SEP. 2020 28/09/2020.

SHANGHAI SINPO SOLUTIONS CO., LTD
Block No.1, No.25 Hang Du Road, Sinpo Industrial
Zone Pu Dong New District Shanghai China 201316



File information

Name: M/V MAUNALEI
Location: NANTONG COSCO SHIPYARD WORKSHOP
Username:
Last measured: 2020/9/4

Result Options

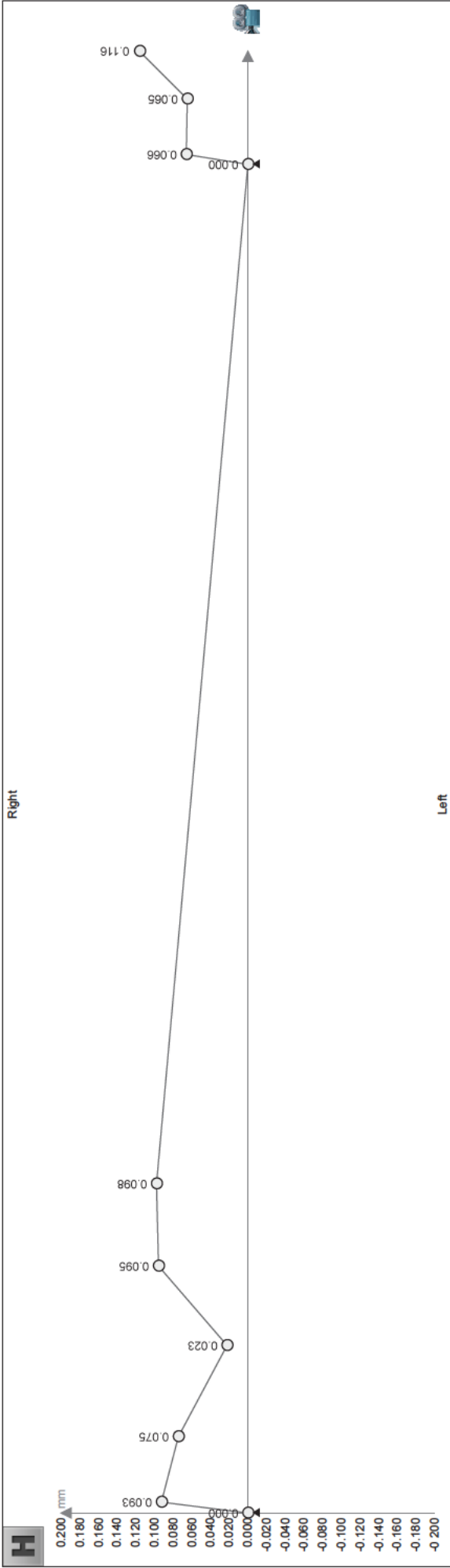
Reference Optimized
View format Absolute
Result Actual minus specification
Viewing direction Towards beginning

Dimensions (graphical)

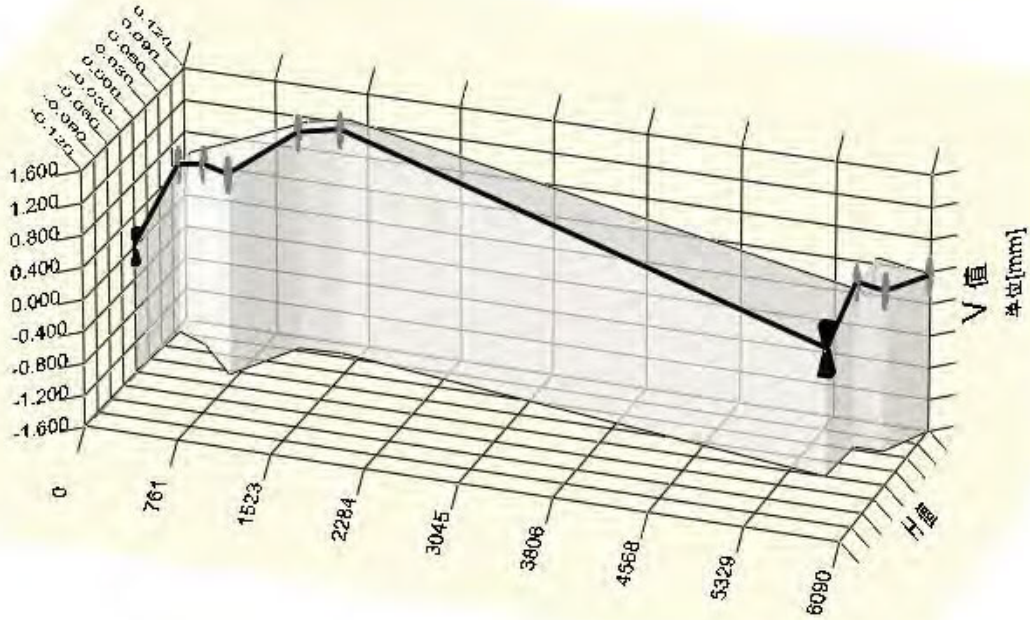


| <i>No.</i> | <i>Name</i> | <i>Type</i> | <i>Position [mm]</i> | <i>Diameter [mm]</i> |
|------------|-------------|-------------|----------------------|----------------------|
| 1 | SB1 | Simple bore | 0 | 100 |
| 2 | SB2 | Simple bore | 45 | 100 |
| 3 | SB3 | Simple bore | 320 | 100 |
| 4 | SB4 | Simple bore | 700 | 100 |
| 5 | SB5 | Simple bore | 1030 | 100 |
| 6 | SB6 | Simple bore | 1370 | 100 |
| 7 | SB7 | Simple bore | 5620 | 100 |
| 8 | SB8 | Simple bore | 5660 | 100 |
| 9 | SB9 | Simple bore | 5890 | 100 |
| 10 | SB10 | Simple bore | 6090 | 100 |

Actual minus specification



结果选项: (),



结果选项: (), ,

| Result | | | | | | | | |
|--------|------|-----------------|----------------|-------------|---------------|---------------|--------------------|--------------------|
| No. | Name | Line set points | H [mm] | V [mm] | Preset H [mm] | Preset V [mm] | Line presetsH [mm] | Line presetsV [mm] |
| 1 | SB1 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 2 | SB2 | | 0.093 Right | 0.530 Up | --- | --- | --- | --- |
| 3 | SB3 | | 0.075 Right | 0.692 Up | --- | --- | --- | --- |
| 4 | SB4 | | 0.023 Right | 0.927 Up | --- | --- | --- | --- |
| 5 | SB5 | | 0.095 Right | 1.136 Up | --- | --- | --- | --- |
| 6 | SB6 | | 0.098 Right | 1.232 Up | --- | --- | --- | --- |
| 7 | SB7 | ● | 0.000 | 0.000 | --- | --- | --- | --- |
| 8 | SB8 | | 0.066 Right | 0.467 Up | --- | --- | --- | --- |
| 9 | SB9 | | 0.065 Right | 0.405 Up | --- | --- | --- | --- |
| 10 | SB10 | | 0.116 Right | 0.359 Up | --- | --- | --- | --- |