

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019672**Date Inspected:** 29-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Zhu Feng**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** TOWER & OBG Components**Summary of Items Observed:**

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

BAY#10

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 007973

**Magnetic Particle Testing (MT)**

This QA inspector performed MT of the area previously tested and accepted by ZPMC Quality Control personnel.

This QA Inspector generated an MT report for this date. The member is identified as Tower Component. The weld designation reviewed as follows:

**NORTH TOWER LIFT-4, REPAIR AREAS AFTER BLASTING AND PAINTING (EXTERNAL)**

Base material Gouge - skin 'C' at 140m

Base material Gouge - skin 'D' at 123m

**NORTH TOWER LIFT-4, REPAIR AREAS AFTER BLASTING AND PAINTING (INTERNAL)**

Porosity - 200 mm from end of skin 'C' stiffener at 117 mm

Crack temporary tack weld - Skin 'D' at 119m Lower diaphragm

Crack temporary tack weld - Skin 'D' at 119m upper diaphragm

Gouge - fitlug weld skin 'B' at 123m lower diaphragm

Crack temporary tack weld - Skin 'D' at 123m upper diaphragm

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Porosity - between diaphragm and skin at 127m lower diaphragm

Porosity - skin'A' at 131m lower diaphragm

Base material Gouge - skin 'A' at 123m upper diaphragm

Pibhole - at 131m D/E corner

Porosity - Skin'D' at 131m top diaphragm

This QA Inspector observed the following work in progress

Flux Cored Arc Welding (FCAW):

Weld joint # 61 located on Bike Path BK004A8 – 032. Welder is identified as 040533. ZPMC Quality Control (QC) Inspector is identified as Yu Zhi Lai. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2233 – ESAB.

Weld joint # 61 located on Bike Path BK004A6 – 032. Welder is identified as 053869. ZPMC Quality Control (QC) Inspector is identified as Yu Zhi Lai. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – ESAB.

Weld joint # 86 located on Bike Path BK004A6 – 032. Welder is identified as 053869. ZPMC Quality Control (QC) Inspector is identified as Yu Zhi Lai. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2233 – ESAB.

Weld joint # 70 located on Bike Path BK004A8 – 032. Welder is identified as 040533. ZPMC Quality Control (QC) Inspector is identified as Yu Zhi Lai. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – ESAB.

Shielded Metal Arc Welding (SMAW):

Weld joint # 25 located on Bike Path BK004A8 – 032. Welder is identified as 052493. ZPMC Quality Control (QC) Inspector is identified as Yu Zhi Lai. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2113. (See attached photo)

Weld joint # 125 located on Bike Path BK004A8 – 032. Welder is identified as 052930. ZPMC Quality Control (QC) Inspector is identified as Yu Zhi Lai. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2112.

Weld joint # 28 located on Bike Path BK004A8 – 032. Welder is identified as 052493. ZPMC Quality Control (QC) Inspector is identified as Yu Zhi Lai. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2113.

Weld joint # 09 located on Bike Path BK004A8 – 032. Welder is identified as 052930. ZPMC Quality Control (QC) Inspector is identified as Yu Zhi Lai. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2112.

BAY#11

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The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 007971

### Visual Inspection Testing (VT)

This QA inspector performed VT of the area previously tested and accepted by ZPMC Quality Control personnel. The member is identified as TOWER Component. The identified component designations reviewed are as follows:

LIFT-5 TOWER SUSPENDER BRACKET  
SD1-BRSA5-1-19A/B

### Magnetic Particle Testing (MT)

This QA inspector performed MT of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an MT report for this date. The member is identified as Tower Component. The weld designation reviewed as follows:

LIFT-5 TOWER SUSPENDER BRACKET  
SD1-BRSA5-1-19A/B

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 007978

### Ultrasonic Testing (UT)

This QA inspector performed UT of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT report for this date. The member is identified as OBG Component. The weld designation reviewed as follows:

BIKE PATH  
BK004C5 – 024 – 122; 125; 128

This QA Inspector observed the following work in progress

### Flux Cored Arc Welding (FCAW):

Weld joint # 07 located on Bike Path BK004C6 – 024. Welder is identified as 205649. ZPMC Quality Control (QC) Inspector is identified as Wang Chung Xin. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – ESAB. (See attached photo)

Weld joint # 130 located on Bike Path BK004C8 – 024. Welder is identified as 040736. ZPMC Quality Control (QC) Inspector is identified as Wang Chung Xin. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2233 – ESAB.

Weld joint # 07 located on Bike Path BK004C6 – 024. Welder is identified as 205649. ZPMC Quality Control (QC) Inspector is identified as Wang Chung Xin. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – ESAB.

Weld joint # 01 located on Bike Path BK004C6 – 024. Welder is identified as 040736. ZPMC Quality Control (QC) Inspector is identified as Wang Chung Xin. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2233 – ESAB.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract

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documents.



## Summary of Conversations:

No Relevant Conversations.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Thomas Ho- 15002048250, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Kumar,Sandeep	Quality Assurance Inspector
<b>Reviewed By:</b>	Clifford,William	QA Reviewer

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